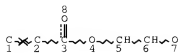


=&gt; d que 192

L7 SCR 2043

L9 STR



## NODE ATTRIBUTES:

NSPEC IS RC AT 1

NSPEC IS RC AT 2

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 8

## STEREO ATTRIBUTES: NONE

L11 STR



VAR G1=3/10/11/14/OH

REP G2=(1-20) A

## NODE ATTRIBUTES:

NSPEC IS RC AT 1

NSPEC IS RC AT 2

NSPEC IS RC AT 3

NSPEC IS RC AT 4

NSPEC IS RC AT 5

NSPEC IS RC AT 14

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RSPEC 8

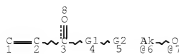
NUMBER OF NODES IS 16

## STEREO ATTRIBUTES: NONE

L15 136955 SEA FILE=REGISTRY SSS FUL L9 AND L11 AND L7

L23 132698 SEA FILE=REGISTRY ABB=ON PLU=ON PSTY/PCT

L29 STR



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REP G1=(1-20) 7-3 6-5
VAR G2=OH/7
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ELEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 8

STEREO ATTRIBUTES: NONE
L33 STR

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VAR G1=3/10/11/14/OH
REP G2=(1-20) A
NODE ATTRIBUTES:
NSPEC IS RC AT 3
NSPEC IS RC AT 4
NSPEC IS RC AT 5
NSPEC IS RC AT 14
DEFAULT MLEVEL IS ATOM
DEFAULT ELEVEL IS LIMITED

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GRAPH ATTRIBUTES:
RSPEC 8
NUMBER OF NODES IS 16

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STEREO ATTRIBUTES: NONE
L35 109186 SEA FILE=REGISTRY SUB=L15 SSS FUL (L29 AND L33)
L37 25925 SEA FILE=REGISTRY ABB=ON PLU=ON L35 AND L23
L38 25040 SEA FILE=REGISTRY ABB=ON PLU=ON L37 NOT P/ELS
L39 22884 SEA FILE=REGISTRY ABB=ON PLU=ON L38 NOT SI/ELS
L46 35853 SEA FILE=REGISTRY ABB=ON PLU=ON 868-77-9/CRN
L47 20350 SEA FILE=REGISTRY ABB=ON PLU=ON 818-61-1/CRN
L48 19565 SEA FILE=REGISTRY ABB=ON PLU=ON 106-91-2/CRN
L49 15426 SEA FILE=REGISTRY ABB=ON PLU=ON L39 AND (L46 OR L47 OR
L48)
L50 4531 SEA FILE=REGISTRY ABB=ON PLU=ON 26915-72-0/CRN
L51 80446 SEA FILE=REGISTRY ABB=ON PLU=ON 100-42-5/CRN
L52 232 SEA FILE=REGISTRY ABB=ON PLU=ON L49 AND L50
L53 159 SEA FILE=REGISTRY ABB=ON PLU=ON L51 AND L52
L54 11 SEA FILE=REGISTRY ABB=ON PLU=ON L53 AND 3/NC
L55 15 SEA FILE=HCAPLUS ABB=ON PLU=ON L54
L90 8 SEA FILE=HCAPLUS ABB=ON PLU=ON L55 AND (1840-2003)/PRY,AY
, PY
L91 4 SEA FILE=HCAPLUS ABB=ON PLU=ON L90 AND ELECTROLYT?
L92 8 SEA FILE=HCAPLUS ABB=ON PLU=ON L90 OR L91

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=> d 192 1-8 ibib ed abs hitstr hitind
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L92 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN
```

ACCESSION NUMBER: 2005:612574 HCAPLUS Full-text  
 DOCUMENT NUMBER: 143:136276  
 TITLE: Polymer solid electrolytes for batteries  
 INVENTOR(S): Shimada, Mikiya; Niitani, Takeshi  
 PATENT ASSIGNEE(S): Nippon Soda Co., Ltd., Japan  
 SOURCE: PCT Int. Appl., 33 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005064620	A1	20050714	WO 2004-JP19710	20041222
<--				
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.:			JP 2003-430626	A 20031225
			<--	
			JP 2004-296309	A 20041008

ED Entered STN: 15 Jul 2005

AB Disclosed is a polymer solid electrolyte having both excellent ion conductivity and shape stability. A polymer solid electrolyte was characterized by containing a polymer having an ion-conducting region, an additive having at least one chemical bond selected from the group consisting of urethane bond, thiourethane bond, ureide bond, imide bond and amide bond in a mol., and an electrolyte salt.

IT 858181-45-0P, Styrene-2-hydroxyethyl acrylate-polyethylene glycol monomethacrylate methyl ether copolymer  
 (polymer solid electrolytes for batteries)

RN 858181-45-0 HCAPLUS

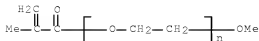
CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with ethenylbenzene and  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\theta$ -methoxypoly(oxy-1,2-ethanediy1) (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)n C5 H8 O2

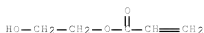
CCI PMS



CM 2

CRN 818-61-1

CMF C5 H8 O3



CM 3

CRN 100-42-5

CMF C8 H8



IC ICM H01B001-06  
 ICS C08K003-00; C08K005-00; C08L053-00; C08L055-00; H01M010-40  
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
 Section cross-reference(s): 35  
 ST polymer solid electrolyte battery  
 IT Polymerization  
 (formation of polymer solid electrolytes for batteries)  
 IT Polymer electrolytes  
 Secondary batteries  
 (polymer solid electrolytes for batteries)  
 IT 9081-45-2P, Styrene-methyl polyethylene glycol monomethacrylate  
 copolymer 858181-45-0F, Styrene-2-hydroxyethyl  
 acrylate-polyethylene glycol monomethacrylate methyl ether copolymer  
 (polymer solid electrolytes for batteries)  
 REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

L92 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2008 ACS ON STN  
 ACCESSION NUMBER: 2005:323497 HCAPLUS Full-text  
 DOCUMENT NUMBER: 142:395064  
 TITLE: Polymer solid electrolytic electric  
 battery, electrode and those production methods  
 INVENTOR(S): Kanamura, Kiyoshi; Kawamura, Kiyoshi; Shintani,  
 Takeshi; Shimada, Mikiya; Aoyagi, Koichiro  
 PATENT ASSIGNEE(S): Nippon Soda Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 40 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

10/571,998

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005100966	A	20050414	JP 2004-240036	20040819
PRIORITY APPLN. INFO.:			JP 2003-295880	A 20030820

ED Entered STN: 15 Apr 2005

AB The disclosed battery contains polymer electrolyte comprising block copolymer having ethylene glycol derivative-acrylic acid derivative ester polymer block, and vinyl polymer block(s). The disclosed electrodes for the battery contains electrode active substance, an electrolyte salt, and the block copolymer. Fabrication process for the battery is also disclosed. The polymer electrolyte has excellent thermal stability, phys. properties, and ion conductivity

IT 849950-63-6P

(polymer electrolytes for lithium batteries)

RN 849950-63-6 HCAPLUS

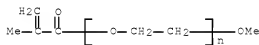
CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with ethenylbenzene and  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\theta$ -methoxypoly(oxy-1,2-ethanediyl), pentablock (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)n C5 H8 O2

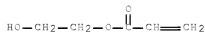
CCI PMS



CM 2

CRN 818-61-1

CMF C5 H8 O3



CM 3

CRN 100-42-5

CMF C8 H8



IC ICM H01M010-40  
 ICS C08F293-00; H01B001-06; H01M004-02; H01M004-04; H01M004-60  
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
 ST block copolymer electrolyte lithium secondary battery  
 IT Battery cathodes  
 (block copolymer electrolytes for)  
 IT Polymer electrolytes  
 (block copolymers containing methoxypolyethylene glycol  
 monomethacrylate polymer block as)  
 IT 7791-03-9, Lithium perchlorate  
 (electrolytes for lithium batteries)  
 IT 697284-07-4P 849950-63-6P  
 (polymer electrolytes for lithium batteries)

L92 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:260319 HCAPLUS Full-text

DOCUMENT NUMBER: 142:339051

TITLE: Composition for polymer solid electrolyte  
 , polymer solid electrolyte, polymer  
 solid electrolyte battery,  
 ion-conductive membrane, copolymer and process for  
 producing the copolymer

INVENTOR(S): Muramoto, Hiroo; Niitani, Takeshi; Aoyagi,  
 Koichiro

PATENT ASSIGNEE(S): Nippon Soda Co., Ltd., Japan

SOURCE: PCT Int. Appl., 128 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005027144	A1	20050324	WO 2004-JP576	20040123
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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2005089510	A	20050407	JP 2003-321155	20030912
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EP 1667168	A1	20060607	EP 2004-704735	20040123
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1849674	A	20061018	CN 2004-80025920	20040123
<--				
US 20070040145	A1	20070222	US 2006-571998	20060309
<--				
KR 779895	B1	20071128	KR 2006-706986	20060411

PRIORITY APPLN. INFO.:

<--  
JP 2003-321155

A 20030912

<--  
WO 2004-JP576

W 20040123

ED Entered SIN: 25 Mar 2005

AB Polymer solid electrolytes excelling in thermal properties, phys. properties and ion conductivity and being close to practical level for use in batteries are disclosed. In particular, a composition for polymer solid electrolyte characterized in that the composition contains a copolymer and an electrolyte salt, the copolymer having repeating units of the formula:  
 [CR1R2CR3CO2(CHR4aCHR4bO)mR5] (R1, R2, R3 = H, C1-C10 hydrocarbyl; R4a, R4b = H, Me; Me; R5 = H, hydrocarbyl, acyl, silyl; and m is an integer of 1 to 100) and repeating units of the formula: CR6R7CR8R9 (R6, R7, R8 = H, C1-C10 hydrocarbyl; R9 = an organic group having at least one functional group selected from hydroxyl, carboxyl, epoxy, an acid anhydride group and amino).

IT 848442-03-5P 849950-63-6P 877834-07-6P  
 (polymer electrolyte compns. containing)

RN 848442-03-5 HCAPLUS

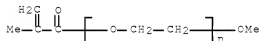
CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with ethenylbenzene and  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-ethanediyl), triblock (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)<sub>n</sub> C5 H8 O2

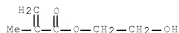
CCI PMS



CM 2

CRN 868-77-9

CMF C6 H10 O3



CM 3

CRN 100-42-5

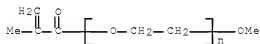
CMF C8 H8



RN 849950-63-6 HCAPLUS  
 CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with ethenylbenzene  
 and  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-  
 ethanediyl), pentablock (9CI) (CA INDEX NAME)

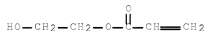
CM 1

CRN 26915-72-0  
 CMF (C2 H4 O)<sub>n</sub> C5 H8 O2  
 CCI PMS



CM 2

CRN 818-61-1  
 CMF C5 H8 O3



CM 3

CRN 100-42-5  
 CMF C8 H8

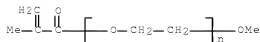


RN 877834-07-6 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with  
 ethenylbenzene and  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -  
 methoxypoly(oxy-1,2-ethanediyl), graft (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0  
 CMF (C2 H4 O)<sub>n</sub> C5 H8 O2  
 CCI PMS

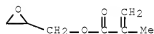




CM 2

CRN 106-91-2

CMF C7 H10 O3



CM 3

CRN 100-42-5

CMF C8 H8



IC ICM H01B001-06  
 ICS C08L033-14; C08L053-00; C08F297-00; H01M006-18; H01M010-40;  
 H01M004-60

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
 Section cross-reference(s): 35

ST compn polymer solid electrolyte battery; ion conductive film  
 polymer

IT Polymer electrolytes  
 (polyalkylene glycol acrylate block copolymers as)

IT 19438-60-9, 4-Methylhexahydrophthalic anhydride 31305-94-9, YH-434  
 (cross linking agent; polymer electrolyte compns. containing)

IT 584-84-9, Tolyene 2,4-diisocyanate 7791-03-9, Lithium perchlorate  
 (polymer electrolyte compns. containing)

IT 697284-07-4P 848439-41-8DP, desilylated 848439-42-9DP, desilylated  
 848439-43-0DP, deethylated 848439-44-1DP, debutylated  
 848442-02-4DP, desilylated 848442-03-5P 849950-63-6P  
 877834-07-6P 877837-29-1DP, desilylated  
 (polymer electrolyte compns. containing)

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

L92 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2008 ACS ON STN  
 ACCESSION NUMBER: 2004:609449 HCAPLUS Full-text  
 DOCUMENT NUMBER: 141:165708  
 TITLE: Composition of polymer solid electrolyte

INVENTOR(S): Muramoto, Hiroo; Shintani, Takeshi  
 PATENT ASSIGNEE(S): Nippon Soda Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 45 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004213940	A	20040729	JP 2002-379656	20021227
			<--	

PRIORITY APPLN. INFO.: JP 2002-379656 20021227  
 <--

ED Entered STN: 30 Jul 2004

AB The title material is a total solid electrolyte and is characterized by having excellent thermal, phys., and ion conductive property. The polymer has an average mol. weight of 5000-1,000,000 and could contain the following substitution groups: hydrocarbon, acyl, silyl, carboxyl, hydroxide, amino group, ester group, and epoxy group. The repeating units of the defined group take 1-95% of the total repeating units in the copolymer. The electrolyte can be used for manufacturing of elec. cell, capacitor, sensor, EC element, or electro-optical conversion element.

IT 64696-14-6F 728938-25-8P  
 (composition of polymer solid electrolyte for manufacturing of electrochem. devices)

RN 64696-14-6 HCAPLUS

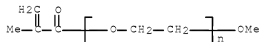
CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with ethenylbenzene and  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)n C5 H8 O2

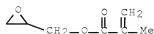
CCI PMS



CM 2

CRN 106-91-2

CMF C7 H10 O3



CM 3

CRN 100-42-5

CMF C8 H8



RN 728938-25-8 HCAPLUS

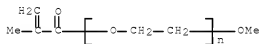
CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with  
ethenylbenzene and  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -  
methoxypoly(oxy-1,2-ethanediyl), block (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)<sub>n</sub> C5 H8 O2

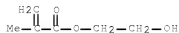
CCI PMS



CM 2

CRN 868-77-9

CMF C6 H10 O3



CM 3

CRN 100-42-5

CMF C8 H8



IC ICM H01B001-06

ICS C08F297-02; C08K003-00; C08K005-00; C08L033-14; C08L053-00;

C08L057-00; H01M006-18; H01M010-40

CC 76-2 (Electric Phenomena)  
Section cross-reference(s): 36

ST compn polymer solid electrolyte

IT Capacitors  
Sensors  
(composition of polymer solid electrolyte for manufacturing of electrochem. devices)

IT Polymers, uses  
(composition of polymer solid electrolyte for manufacturing of electrochem. devices)

IT Electric apparatus  
(electrochem.; composition of polymer solid electrolyte for manufacturing of electrochem. devices)

IT Solid electrolytes  
(polymer; composition of polymer solid electrolyte for manufacturing of electrochem. devices)

IT 64696-14-6P 728930-40-3P 728930-41-4P 728938-25-8P  
728938-30-5P 728938-31-6P  
(composition of polymer solid electrolyte for manufacturing of electrochem. devices)

L92 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:534443 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 135:108131

TITLE: Manufacture of water-soluble polymers with low residual monomer content

INVENTOR(S): Iyanagi, Koichi

PATENT ASSIGNEE(S): Pola Chemical Industries, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001200009	A	20010724	JP 2000-184152	20000620
			<--	
PRIORITY APPLN. INFO.:			JP 1999-321835	A 19991112
			<--	

ED Entered STN: 25 Jul 2001

AB Water-soluble polymers are manufactured by (co)polymerization of monomers containing  $\geq 1$  water-soluble monomers in a water- or water-miscible solvent-based buffer solution containing ionic or ion-forming polymerization initiators. Thus, NK Ester M 230G (methoxypolyethylene glycol methacrylate) 24.3, 2-hydroxyethyl methacrylate 18.0, Me methacrylate 12.0, and Viscoat 17F (1H,1H,2H,2H-heptafluorodecyl acrylate) 5.7 g were polymerized at 65° for 16 h in a com. buffer solution (pH 6.86) in the presence of ammonium persulfate to give a polymer with residual monomer content  $\leq 50$  ppm.

IT 350483-28-2P  
(manufacture of water-soluble acrylic polymers with low residual monomer content)

RN 350483-28-2 HCAPLUS

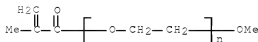
CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with ethenylbenzene and  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-ethanediy), graft (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)n C5 H8 O2

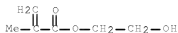
CCI PMS



CM 2

CRN 868-77-9

CMF C6 H10 O3



CM 3

CRN 100-42-5

CMF C8 H8



IC ICM C08F004-40

ICS C08F002-10; C08F012-08; C08F016-02; C08F020-06; C08F020-12;  
C08F020-22; C08F020-26; C08F026-10; C08F030-02

CC 37-3 (Plastics Manufacture and Processing)

IT 26710-97-4P, Acrylic acid-butyl acrylate-2-ethylhexyl acrylate  
copolymer 27340-63-2P 28262-63-7P, Butyl methacrylate-methacrylic  
acid-methyl methacrylate copolymer 59071-05-5P 87105-87-1P  
101944-39-2P, Hexyl methacrylate-methacrylic acid copolymer  
111740-55-7P, Methyl methacrylate-NK Ester M 230G graft copolymer  
145813-03-2P 170211-39-9P 287395-81-7P, 2-Hydroxyethyl  
methacrylate-NK Ester M 230G-Viscoat 3FM-Viscoat 17F graft copolymer  
287395-86-2P 287474-67-3P 287474-82-2P, Ethylene  
oxide-2-hydroxyethyl methacrylate-methyl methacrylate-Viscoat 17F  
graft copolymer methyl ether 350483-24-8P 350483-28-2P  
350483-29-3P 350483-30-6P 350483-31-7P 350483-32-8P  
350484-91-2P 350484-92-3P 350484-94-5P  
(manufacture of water-soluble acrylic polymers with low residual monomer  
content)

L92 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1996:548252 HCAPLUS Full-text  
 DOCUMENT NUMBER: 125:169694  
 ORIGINAL REFERENCE NO.: 125:31791a,31794a  
 TITLE: Thermoplastic resin compositions with improved  
 adhesive and antistatic properties  
 INVENTOR(S): Sugiura, Motoyuki; Imaeda, Takashi; Yamada,  
 Tsunehisa; Oomura, Hiroshi  
 PATENT ASSIGNEE(S): Nippon Oils & Fats Co Ltd, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08143780	A	19960604	JP 1994-290121	19941124
			<--	
PRIORITY APPLN. INFO.:			JP 1994-290121	19941124
			<--	

ED Entered STN: 14 Sep 1996

AB Title comps. comprise (1) a thermoplastic resin as the major component, (2) a polyoxyalkylene containing ethylene oxide unit, and (3), to 100 parts of (1) + (2), ≤50 parts of a polymer having segments made from poly(ethylene oxide)-containing monomers and segments made from other vinyl monomers. Styrene 700 g and Blemmer PME 4000 (polyoxyethylene-containing methacrylate) 300 g were polymerized in an aqueous emulsion and then further polymerized with styrene 1000 g to give a block copolymer having polystyrene segments and polyoxyethylene group-containing segments and number-average mol. weight 160000. The block copolymer 5 parts was blended with a mixture containing 95 weight% of Noryl 534J 801 (polyphenylene ether) and 5 weight% of PEG 4000 (polyethylene oxide), extruded, and injection molded to give a test piece having bending strength 1100 kg/cm<sup>2</sup> and surface intrinsic resistance 1.5 + 10<sup>11</sup> Ω.

IT 178994-99-5P

(thermoplastic resin comps. with improved adhesive and antistatic properties)

RN 178994-99-5 HCAPLUS

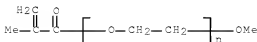
CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with ethenylbenzene and α-(2-methyl-1-oxo-2-propenyl)-ω-methoxypoly(oxy-1,2-ethanediyl), block (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

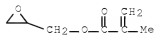
CMF (C2 H4 O)<sub>n</sub> C5 H8 O2

CCI PMS



CM 2

CRN 106-91-2  
CMF C7 H10 O3



CM 3

CRN 100-42-5  
CMF C8 H8



IC ICM C08L101-00  
ICS C08L023-00; C08L053-00; C08L057-00; C08L071-02  
CC 37-6 (Plastics Manufacture and Processing)  
IT 112119-04-7P 131431-51-1P 178994-98-4P 178994-99-5P  
(thermoplastic resin compns. with improved adhesive and antistatic properties)

L92 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1996:451704 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 125:88273

ORIGINAL REFERENCE NO.: 125:16653a

TITLE: Antistatic thermoplastic resin compositions

INVENTOR(S): Sugiura, Motoyuki; Imaeda, Takashi; Yamada, Tsunehisa; Oomura, Hiroshi

PATENT ASSIGNEE(S): Nippon Oils & Fats Co Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 08109305	A	19960430	JP 1994-248137	19941013
			<--	
PRIORITY APPLN. INFO.:			JP 1994-248137	19941013
			<--	

ED Entered STN: 31 Jul 1996

AB The title compns., useful for automobiles, elec. devices, etc., comprise (A) thermoplastic resins as main components and contain (B) polymers composed of (a) poly(ethylene oxide) group-containing polymer segments obtained by copolymerizing ≥1 poly(ethylene oxide) group (POE)-containing monomers and ≥1 vinyl monomers and (b) vinyl-type polymer segments free of POE, which are bonded chemical. Thus, 98 parts Noryl 534J801 [a poly(phenylene ether)] and 2 parts

300:700 Blemmer PME 4000-styrene block copolymer were dry blended, melt kneaded at 280°, pelletized, dried at 110°, and injection molded at 220, 260, and 300° to give test pieces.

IT 178994-99-5P

(antistatic thermoplastic resin compns. containing poly(ethylene oxide) copolymers)

RN 178994-99-5 HCAPLUS

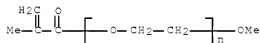
CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with ethenylbenzene and  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-ethanediyl), block (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)n C5 H8 O2

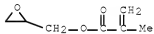
CCI PMS



CM 2

CRN 106-91-2

CMF C7 H10 O3



CM 3

CRN 100-42-5

CMF C8 H8



IC ICM C08L051-06

ICS C08L053-00; C08L101-00

CC 37-6 (Plastics Manufacture and Processing)

IT 112119-04-7P 115115-55-4P 131431-51-1P 178994-98-4P

178994-99-5P

(antistatic thermoplastic resin compns. containing poly(ethylene oxide) copolymers)



L92 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1977:602548 HCAPLUS Full-text  
 DOCUMENT NUMBER: 87:202548  
 ORIGINAL REFERENCE NO.: 87:32081a,32084a  
 TITLE: Block copolymers as dispersion stabilizing agents  
 INVENTOR(S): Sinclair, Richard G.; Berry, David L.; Creameans,  
 George E.; Markle, Richard A.; Germon, Wesley M.,  
 Jr.  
 PATENT ASSIGNEE(S): Goodyear Tire and Rubber Co., USA  
 SOURCE: Ger. Offen., 39 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2710248	A1	19770922	DE 1977-2710248	19770309
CA 1098248	A1	19810324	CA 1977-272519	19770223
AU 7722764	A	19780907	AU 1977-22764	19770228
AU 507543	B2	19800221		
ZA 7701225	A	19780125	ZA 1977-1225	19770301
GB 1544335	A	19790419	GB 1977-9205	19770304
BR 7701358	A	19771018	BR 1977-1358	19770307
JP 52109584	A	19770913	JP 1977-25855	19770309
FR 2343754	A1	19771007	FR 1977-7183	19770310
FR 2343754	B1	19800516		
US 4385164	A	19830524	US 1979-92595	19791108
PRIORITY APPLN. INFO.:			US 1976-665657	A 19760310
			US 1978-895906	A1 19780413

ED Entered STN: 12 May 1984

AB Block copolymers containing hydrophilic and hydrophobic blocks were prepared and used as stabilizers for the aqueous dispersion polymerization of ethylenically unsatd. monomers. Thus, a mixture of 0.077 g AIBN and 93.9 mL of a solution prepared from 780 mL benzene and 195 g polyethylene glycol monomethyl ether monomethacrylate [26915-72-0] was added slowly to a mixture of 1 mL glycidyl methacrylate, 200 mL benzene, 3.7 mL tert-butylstyrene, and 0.15 g AIBN, refluxed, cooled, treated with 0.347 g hydroquinone, 0.177 g triethylenediamine, and 0.63 mL methacrylic acid, and refluxed to prepare a block copolymer [64696-19-1] (number-average mol. weight 10,460) which was used as a stabilizer in the dispersion polymerization of vinyl acetate, acrylonitrile, Me methacrylate, butadiene, butadiene-styrene mixts., etc.

IT 64696-14-6

(block, dispersing agents, for polymns.)

RN 64696-14-6 HCAPLUS

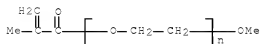
CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with ethenylbenzene and  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-ethanediy) (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O)<sub>n</sub> C5 H8 O2

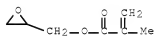
CCI PMS



CM 2

CRN 106-91-2

CMF C7 H10 O3



CM 3

CRN 100-42-5

CMF C8 H8



IC C08F002-20

CC 36-3 (Plastics Manufacture and Processing)

IT 52857-07-5 64696-14-5 64696-15-7 64696-16-8 64696-18-0

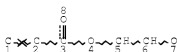
64696-19-1

(block, dispersing agents, for polymns.)

=&gt; d que 1109

L7 SCR 2043

L9 STR



## NODE ATTRIBUTES:

NSPEC IS RC AT 1

NSPEC IS RC AT 2

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

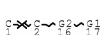
## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 8

## STEREO ATTRIBUTES: NONE

L11 STR



N @14

VAR G1=3/10/11/14/OH

REP G2=(1-20) A

## NODE ATTRIBUTES:

NSPEC IS RC AT 1

NSPEC IS RC AT 2

NSPEC IS RC AT 3

NSPEC IS RC AT 4

NSPEC IS RC AT 5

NSPEC IS RC AT 14

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RSPEC 8

NUMBER OF NODES IS 16

## STEREO ATTRIBUTES: NONE

L15 136955 SEA FILE=REGISTRY SSS FUL L9 AND L11 AND L7

L21 365051 SEA FILE=REGISTRY ABB=ON PLU=ON PACR/PCT

L22 308947 SEA FILE=REGISTRY ABB=ON PLU=ON PETH/PCT

L23 132698 SEA FILE=REGISTRY ABB=ON PLU=ON PSTY/PCT

L29 STR



REP G1=(1-20) 7-3 6-5  
 VAR G2=OH/7  
 NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 8

STEREO ATTRIBUTES: NONE  
 L33 STR



VAR G1=3/10/11/14/OH  
 REP G2=(1-20) A  
 NODE ATTRIBUTES:  
 NSPEC IS RC AT 3  
 NSPEC IS RC AT 4  
 NSPEC IS RC AT 5  
 NSPEC IS RC AT 14  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RSPEC 8  
 NUMBER OF NODES IS 16

STEREO ATTRIBUTES: NONE  
 L35 109186 SEA FILE=REGISTRY SUB=L15 SSS FUL (L29 AND L33)  
 L37 25925 SEA FILE=REGISTRY ABB=ON PLU=ON L35 AND L23  
 L38 25040 SEA FILE=REGISTRY ABB=ON PLU=ON L37 NOT P/ELS  
 L39 22884 SEA FILE=REGISTRY ABB=ON PLU=ON L38 NOT SI/ELS  
 L40 STR



VAR G1=3/10/11/14/OH  
 VAR G2=AK/CY  
 NODE ATTRIBUTES:

NSPEC IS RC AT 3  
 NSPEC IS RC AT 4  
 NSPEC IS RC AT 5  
 NSPEC IS RC AT 14  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RSPEC 8  
 NUMBER OF NODES IS 16

## STEREO ATTRIBUTES: NONE

L42 54341 SEA FILE=REGISTRY SUB=L35 SSS FUL L40  
 L43 16281 SEA FILE=REGISTRY ABB=ON PLU=ON L42 AND L23  
 L46 35853 SEA FILE=REGISTRY ABB=ON PLU=ON 868-77-9/CRN  
 L47 20350 SEA FILE=REGISTRY ABB=ON PLU=ON 818-61-1/CRN  
 L48 19565 SEA FILE=REGISTRY ABB=ON PLU=ON 106-91-2/CRN  
 L49 15426 SEA FILE=REGISTRY ABB=ON PLU=ON L39 AND (L46 OR L47 OR  
 L48)  
 L50 4531 SEA FILE=REGISTRY ABB=ON PLU=ON 26915-72-0/CRN  
 L51 80446 SEA FILE=REGISTRY ABB=ON PLU=ON 100-42-5/CRN  
 L52 232 SEA FILE=REGISTRY ABB=ON PLU=ON L49 AND L50  
 L53 159 SEA FILE=REGISTRY ABB=ON PLU=ON L51 AND L52  
 L54 11 SEA FILE=REGISTRY ABB=ON PLU=ON L53 AND 3/NC  
 L55 15 SEA FILE=HCAPLUS ABB=ON PLU=ON L54  
 L56 99 SEA FILE=HCAPLUS ABB=ON PLU=ON L53  
 L57 8 SEA FILE=HCAPLUS ABB=ON PLU=ON L56 AND SOLID(2A)ELECTROLY  
 T?  
 L58 10276 SEA FILE=HCAPLUS ABB=ON PLU=ON L43  
 L59 13 SEA FILE=HCAPLUS ABB=ON PLU=ON L58 AND SOLID(2A)ELECTROLY  
 T?  
 L60 21 SEA FILE=HCAPLUS ABB=ON PLU=ON L57 OR L59  
 L61 232 SEA FILE=REGISTRY ABB=ON PLU=ON L49 AND L50  
 L63 118 SEA FILE=HCAPLUS ABB=ON PLU=ON L61  
 L64 8 SEA FILE=HCAPLUS ABB=ON PLU=ON L63 AND SOLID(2A)ELECTROL  
 YT?  
 L65 21 SEA FILE=HCAPLUS ABB=ON PLU=ON L60 OR L64  
 L66 13 SEA FILE=HCAPLUS ABB=ON PLU=ON L65 NOT L55  
 L68 9 SEA FILE=HCAPLUS ABB=ON PLU=ON L66 AND (1840-2003)/PRY,AY  
 ,PY  
 L72 14180 SEA FILE=REGISTRY ABB=ON PLU=ON L21 AND L22 AND L23  
 L73 6163 SEA FILE=REGISTRY ABB=ON PLU=ON L72 AND L15  
 L74 3225 SEA FILE=HCAPLUS ABB=ON PLU=ON L73  
 L75 2484 SEA FILE=HCAPLUS ABB=ON PLU=ON L74 AND (1840-2003)/PRY,AY  
 ,PY  
 L76 12 SEA FILE=HCAPLUS ABB=ON PLU=ON L75 AND SOLID(2A)ELECTROLY  
 T?  
 L77 8 SEA FILE=HCAPLUS ABB=ON PLU=ON L76 NOT L55  
 L78 11 SEA FILE=HCAPLUS ABB=ON PLU=ON L68 OR L77  
 L79 2255 SEA FILE=REGISTRY ABB=ON PLU=ON 25736-86-1/CRN  
 L80 1190 SEA FILE=REGISTRY ABB=ON PLU=ON 32171-39-4/CRN  
 L81 4 SEA FILE=REGISTRY ABB=ON PLU=ON 84180-83-6 /CRN  
 L82 1 SEA FILE=REGISTRY ABB=ON PLU=ON 119202-21-0 /CRN  
 L83 3114 SEA FILE=REGISTRY ABB=ON PLU=ON L15 AND (L79 OR L80 OR  
 L81 OR L82)  
 L84 663 SEA FILE=REGISTRY ABB=ON PLU=ON L83 AND (L46 OR L47 OR  
 L48)  
 L85 356 SEA FILE=HCAPLUS ABB=ON PLU=ON L84  
 L86 9 SEA FILE=HCAPLUS ABB=ON PLU=ON L85 AND SOLID(2A)ELECTROL  
 YT?

L87 16 SEA FILE=HCAPLUS ABB=ON PLU=ON L85 AND ELECTROLYT?  
 L88 16 SEA FILE=HCAPLUS ABB=ON PLU=ON L86 OR L87  
 L90 8 SEA FILE=HCAPLUS ABB=ON PLU=ON L55 AND (1840-2003)/PRY,AY  
 ,PY  
 L91 4 SEA FILE=HCAPLUS ABB=ON PLU=ON L90 AND ELECTROLYT?  
 L92 8 SEA FILE=HCAPLUS ABB=ON PLU=ON L90 OR L91  
 L93 10316 SEA FILE=HCAPLUS ABB=ON PLU=ON L56 OR L58 OR L63  
 L94 89 SEA FILE=HCAPLUS ABB=ON PLU=ON L93 AND ELECTROLYT?  
 L95 71 SEA FILE=HCAPLUS ABB=ON PLU=ON L94 AND (1840-2003)/PRY,A  
 Y,PY  
 L96 67 SEA FILE=HCAPLUS ABB=ON PLU=ON L95 NOT L92  
 L97 9 SEA FILE=HCAPLUS ABB=ON PLU=ON L96 AND L65  
 L98 6 SEA FILE=HCAPLUS ABB=ON PLU=ON L96 AND L76  
 L99 9 SEA FILE=HCAPLUS ABB=ON PLU=ON L96 AND L78  
 L100 25 SEA FILE=HCAPLUS ABB=ON PLU=ON L88 OR L97 OR L98 OR L99  
  
 L101 25 SEA FILE=HCAPLUS ABB=ON PLU=ON L100 NOT L92  
 L103 88 SEA FILE=HCAPLUS ABB=ON PLU=ON L85 AND L93  
 L104 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L103 AND ELECTROLYT?  
 L105 16 SEA FILE=HCAPLUS ABB=ON PLU=ON L88 OR L104  
 L106 83 SEA FILE=HCAPLUS ABB=ON PLU=ON (L96 OR L97 OR L98 OR L99  
 OR L100 OR L101)  
 L107 18 SEA FILE=HCAPLUS ABB=ON PLU=ON L106 AND SOLID(3A)ELECTROL  
 YT?  
 L108 25 SEA FILE=HCAPLUS ABB=ON PLU=ON L105 OR L107  
 L109 16 SEA FILE=HCAPLUS ABB=ON PLU=ON L108 AND (1840-2003)/PRY,A  
 Y,PY

=> d l109 1-16 ibib ed abs hitstr hitind

L109 ANSWER 1 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2005:522900 HCAPLUS Full-text  
 DOCUMENT NUMBER: 143:62653  
 TITLE: Secondary lithium polymer battery and its  
 manufacture  
 INVENTOR(S): Maeda, Seiji; Saito, Takaichiro; Sakai, Tetsuo  
 PATENT ASSIGNEE(S): Nippon Synthetic Chemical Industry Co., Ltd.,  
 Japan; National Institute of Advanced Industrial  
 Science & Technology  
 SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2005158703	A	20050616	JP 2004-292360	20041005

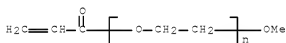
PRIORITY APPLN. INFO.: JP 2003-368706 A 20031029  
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ED Entered STN: 17 Jun 2005

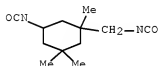
AB The battery has a solid electrolyte, made of a hardened film obtained from a  
 Li+-conductive composition which contains a hardenable oligomer, an unsatd.  
 ethylene monomer, an electrolyte salt, and a hydrophilic Si oxide, between an  
 anode and a cathode. The battery is manufactured by applying the composition  
 on a solvent-free Li foil anode; curing the composition to form the  
 electrolyte-anode stack; applying a cathode material on a conductive metal to

form a composite cathode; and bonding the cathode on the electrolyte-anode stack.

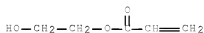
IT 854623-52-2  
 (manufacture of secondary lithium batteries containing polymer electrolytes)  
 RN 854623-52-2 HCAPLUS  
 CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 4-methoxyphenol, methyloxirane, oxirane and  $\alpha$ -(1-oxo-2-propenyl)- $\theta$ -methoxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 32171-39-4  
 CMF (C2 H4 O)<sub>n</sub> C4 H6 O2  
 CCI PMS



CM 2  
 CRN 4098-71-9  
 CMF C12 H18 N2 O2

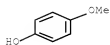


CM 3  
 CRN 818-61-1  
 CMF C5 H8 O3



CM 4  
 CRN 150-76-5

CMF C7 H8 O2



CM 5

CRN 75-56-9

CMF C3 H6 O



CM 6

CRN 75-21-8

CMF C2 H4 O



IC ICM H01M010-40  
 ICS C08F290-06; H01M004-02; H01M004-04  
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
 ST polymer electrolyte secondary lithium battery manuf  
 IT Secondary batteries  
     (lithium; manufacture of secondary lithium batteries containing polymer  
     electrolytes)  
 IT Battery electrolytes  
     (manufacture of secondary lithium batteries containing polymer  
     electrolytes)  
 IT 7631-86-9, Aerosil 200, uses  
     (colloidal; manufacture of secondary lithium batteries containing polymer  
     electrolytes)  
 IT 96-49-1, Ethylene carbonate 7429-90-5, Aluminum, uses 7439-93-2,  
 Lithium, uses 14283-07-9, Lithium tetrafluoroborate 90076-65-6  
 115401-75-7, Ethylene oxide-2-(2-methoxy ethoxy) ethyl glycidyl ether  
 copolymer 132085-38-2, Lithium manganese oxide (Li1.33MnO2)  
 854623-52-2 854623-52-2 854623-53-3 854623-54-4  
     (manufacture of secondary lithium batteries containing polymer  
     electrolytes)



10/571,998

ACCESSION NUMBER: 2005:522899 HCAPLUS Full-text  
 DOCUMENT NUMBER: 143:62652  
 TITLE: Secondary lithium polymer battery and its manufacture  
 INVENTOR(S): Maeda, Seiji; Saito, Takaichiro; Sakai, Tetsuo  
 PATENT ASSIGNEE(S): Nippon Synthetic Chemical Industry Co., Ltd., Japan; National Institute of Advanced Industrial Science & Technology  
 SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2005158702	A	20050616	JP 2004-292359	20041005
			<--	
PRIORITY APPLN. INFO.:			JP 2003-368705	A 20031029
			<--	

ED Entered STN: 17 Jun 2005

AB The battery has a solid electrolyte, made of a hardened film obtained from a Li+-conductive composition which contains a hardenable oligomer, an unsatd. ethylene monomer, an electrolyte salt, and a Si oxide having surface treated by ≥1 Si compound selected from a Si oil, a hexaalkyl disilazane, and an alkyl silane, between an anode and a cathode. The battery is manufactured by applying the composition on a solvent-free Li foil anode; curing the composition to form the electrolyte-anode stack; applying a cathode material on a conductive metal to form a composite cathode; and bonding the cathode on the electrolyte-anode stack.

IT 854623-52-2

(manufacture of secondary lithium batteries containing polymer electrolytes)

RN 854623-52-2 HCAPLUS

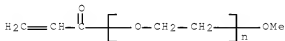
CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 4-methoxyphenol, methyloxirane, oxirane and α-(1-oxo-2-propenyl)-o-methoxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 32171-39-4

CMF (C2 H4 O)n C4 H6 O2

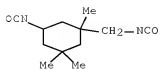
CCI PMS



CM 2

CRN 4098-71-9

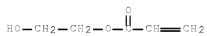
CMF C12 H18 N2 O2



CM 3

CRN 818-61-1

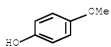
CMF C5 H8 O3



CM 4

CRN 150-76-5

CMF C7 H8 O2



CM 5

CRN 75-56-9

CMF C3 H6 O



CM 6

CRN 75-21-8

CMF C2 H4 O



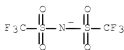
IC ICM H01M010-40  
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
 ST polymer electrolyte secondary lithium battery manuf  
 IT Secondary batteries  
     (lithium; manufacture of secondary lithium batteries containing polymer  
     electrolytes)  
 IT Battery electrolytes  
     (manufacture of secondary lithium batteries containing polymer  
     electrolytes)  
 IT 96-49-1, Ethylene carbonate 7429-90-5, Aluminum, uses 7439-93-2,  
 Lithium, uses 7631-86-9, Aerosil NAX50, uses 14283-07-9, Lithium  
 tetrafluoroborate 56275-01-5, Aerosil RX300 90076-65-6  
 109944-58-3, Aerosil R 202 112153-70-5, Aerosil R 805 115401-75-7,  
 Ethylene oxide-2-(2-methoxy ethoxy) ethyl glycidyl ether copolymer  
 132085-38-2, Lithium manganese oxide (Li1.33MnO2) 854623-52-2  
 854623-52-2 854623-53-3 854623-54-4  
     (manufacture of secondary lithium batteries containing polymer  
     electrolytes)

L109 ANSWER 3 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2005:344637 HCAPLUS Full-text  
 DOCUMENT NUMBER: 142:414436  
 TITLE: Polymer solid electrolyte  
 INVENTOR(S): Matsuyama, Mutsuhiro; Watanabe, Takeshi  
 PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.  
           CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2005108460	A	20050421	JP 2003-336417	20030926
			<--	
PRIORITY APPLN. INFO.:			JP 2003-336417	20030926
			<--	

ED Entered STN: 21 Apr 2005  
 AB The title material has high Li ion conductivity near room temperature and is  
 suited for production of secondary battery. The polymer solid electrolyte  
 contains a polymerable monomer made of a slid salt having polymerization  
 functioning group, charged cation, and charged anion. The polymerization group  
 contains C=C double bond. The electrolyte also contains alkali metal salt.  
 IT 850455-86-6P  
     (polymer solid electrolyte having high Li ion  
     conductivity near room temperature for secondary battery)  
 RN 850455-86-6 HCAPLUS  
 CN Pyrrolidinium, 1,1-bis[(4-ethenylphenyl)methyl]-, salt with  
 1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl]methanesulfonamide (1:1),  
 polymer with 1,2-ethanediy1 bis(2-methyl-2-propenoate) and  
 4-(1-oxo-2-propenyl)morpholine (9CI) (CA INDEX NAME)





IC ICM H01B001-06  
ICS C08F012-26; C08K003-00; C08K005-00; C08L101-02; H01G009-038;  
H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
Section cross-reference(s): 36, 76

ST polymer solid electrolyte secondary battery

IT Electric conductivity  
Secondary batteries  
(polymer solid electrolyte having high Li ion  
conductivity near room temperature for secondary battery)

IT Alkali metal salts  
(polymer solid electrolyte having high Li ion  
conductivity near room temperature for secondary battery)

IT Solid electrolytes  
(polymer; polymer solid electrolyte having high  
Li ion conductivity near room temperature for secondary battery)

IT 109-89-7, Diethylamine, reactions 123-75-1, Pyrrolidine, reactions  
1592-20-7, P-Chloromethylstyrene 90076-65-6  
(polymer solid electrolyte having high Li ion  
conductivity near room temperature for secondary battery)

IT 660-68-4P, Diethylammonium chloride 850455-82-2P 850455-85-5P  
850455-89-9P  
(polymer solid electrolyte having high Li ion  
conductivity near room temperature for secondary battery)

IT 850455-83-3P 850455-86-6P 850455-88-8P  
(polymer solid electrolyte having high Li ion  
conductivity near room temperature for secondary battery)

IT 94-36-0, Benzoyl peroxide, uses 96-49-1, Ethylene carbonate  
108-32-7, Propylene carbonate 7439-93-2, Lithium, uses 21324-40-3,  
Lithium hexafluorophosphate  
(polymer solid electrolyte having high Li ion  
conductivity near room temperature for secondary battery)

L109 ANSWER 4 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:140264 HCAPLUS Full-text

DOCUMENT NUMBER: 142:243590

TITLE: Binder composition for secondary lithium battery  
electrode, the electrode, and the battery and its  
manufacture

INVENTOR(S): Saito, Takaichiro; Maeda, Seiji; Sakai, Tetsuo

PATENT ASSIGNEE(S): Nippon Synthetic Chemical Industry Co., Ltd.,  
Japan; National Institute of Advanced Industrial  
Science and Technology

SOURCE: Jpn. Kokai Tokkyo Koho, 26 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	----	-----	-----

JP 2005044681 A 20050217 JP 2003-278731 20030724  
 <--  
 PRIORITY APPLN. INFO.: JP 2003-278731 20030724  
 <--

ED Entered STN: 18 Feb 2005

AB The composition comprises an urethane (meth)acrylate based compound having (meth)acryloyl group at the mol. end and/or a polyisocyanate derivative having  $\geq 1$  (meth)acryloyl group and residual hydrocarbon group at the mol. end and; and a photoinitiator and/or a thermo-initiator. The electrode has a cured coating film, comprising a composition which contains the above binder composition, an active mass, and a conductor, formed on a collector. The battery has a cathode or an anode uses the above electrode and a solid electrolyte layer, obtained by curing a resin composition which contains an electrolyte salt and the above binder composition, between the 2 electrodes; and is manufactured by applying the resin composition on the cathode and/or the anode, curing the resin composition by active energy-beam radiation or heating to form the solid electrolyte layer, and heat pressing the cathode and the anode.

IT 444815-77-4 844635-55-6 844635-63-8  
 844635-64-9

(structure and manufacture of secondary lithium batteries having polymer binder compns. in electrodes)

RN 444815-77-4 HCAPLUS

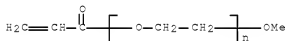
CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, methyloxirane, oxirane and  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 32171-39-4

CMF (C2 H4 O)<sub>n</sub> C4 H6 O2

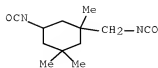
CCI PMS



CM 2

CRN 4098-71-9

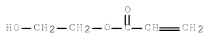
CMF C12 H18 N2 O2



CM 3

CRN 818-61-1

CMF C5 H8 O3



CM 4

CRN 75-56-9

CMF C3 H6 O



CM 5

CRN 75-21-8

CMF C2 H4 O



RN 844635-55-8 HCAPLUS

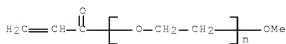
CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with  
 $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl),  
 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and  
 $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-ethanediyl)  
 (9CI) (CA INDEX NAME)

CM 1

CRN 32171-39-4

CMF (C2 H4 O)<sub>n</sub> C4 H6 O2

CCI PMS

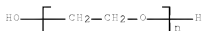


CM 2

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

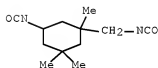
CCI PMS



CM 3

CRN 4098-71-9

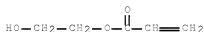
CMF C12 H18 N2 O2



CM 4

CRN 818-61-1

CMF C5 H8 O3



RN 844635-63-8 HCAPLUS

CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with 1,6-diisocyanatohexane, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, methyloxirane, oxirane,  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-ethanediyl), methyl ether (9CI) (CA INDEX NAME)

CM 1

CRN 67-56-1

CMF C H4 O





CM 2

CRN 845733-81-5

CMF (C12 H18 N2 O2 . C8 H12 N2 O2 . C5 H8 O3 . C3 H6 O . (C2 H4 O)<sub>n</sub>  
C4 H6 O2 . (C2 H4 O)<sub>n</sub> C3 H4 O2 . C2 H4 O)<sub>x</sub>

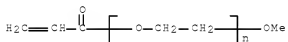
CCI PMS

CM 3

CRN 32171-39-4

CMF (C2 H4 O)<sub>n</sub> C4 H6 O2

CCI PMS

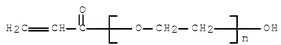


CM 4

CRN 26403-58-7

CMF (C2 H4 O)<sub>n</sub> C3 H4 O2

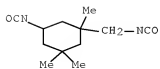
CCI PMS



CM 5

CRN 4098-71-9

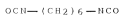
CMF C12 H18 N2 O2



CM 6

CRN 822-06-0

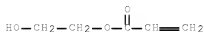
CMF C8 H12 N2 O2



CM 7

CRN 818-61-1

CMF C5 H8 O3



CM 8

CRN 75-56-9

CMF C3 H6 O



CM 9

CRN 75-21-8

CMF C2 H4 O



RN 844635-64-9 HCAPLUS

CN Hexanoic acid, 2,6-diisocyanato-, 2-isocyanatoethyl ester, polymer with 2-hydroxyethyl 2-propenoate, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, methyloxirane, oxirane,  $\alpha$ -(1-oxo-2-propenyl)- $\theta$ -hydroxypoly(oxy-1,2-ethanediyl) and  $\alpha$ -(1-oxo-2-propenyl)- $\theta$ -methoxypoly(oxy-1,2-ethanediyl), methyl ether (9CI) (CA INDEX NAME)

CM 1

CRN 67-56-1

CMF C H4 O



CM 2

CRN 845733-80-4

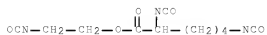
CMF (C12 H18 N2 O2 . C11 H13 N3 O5 . C5 H8 O3 . C3 H6 O . (C2 H4 O)<sub>n</sub>  
C4 H6 O2 . (C2 H4 O)<sub>n</sub> C3 H4 O2 . C2 H4 O)<sub>x</sub>

CCI PMS

CM 3

CRN 69878-18-8

CMF C11 H13 N3 O5

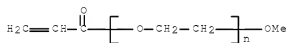


CM 4

CRN 32171-39-4

CMF (C2 H4 O)<sub>n</sub> C4 H6 O2

CCI PMS

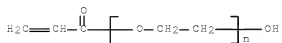


CM 5

CRN 26403-58-7

CMF (C2 H4 O)<sub>n</sub> C3 H4 O2

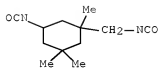
CCI PMS



CM 6

CRN 4098-71-9

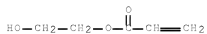
CMF C12 H18 N2 O2



CM 7

CRN 818-61-1

CMF C5 H8 O3



CM 8

CRN 75-56-9

CMF C3 H6 O



CM 9

CRN 75-21-8

CMF C2 H4 O



IC ICM H01M004-62  
 ICS H01M004-02; H01M010-40  
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
 ST electrode binder compn secondary lithium battery manuf solid  
 electrolyte  
 IT Battery electrodes  
 Battery electrolytes  
 Solid electrolytes  
 (structure and manufacture of secondary lithium batteries having polymer  
 binder compns. in electrodes)  
 IT 7782-42-5, Graphite, uses 12798-95-7 90076-65-6 126941-24-0,  
 Lithium manganese oxide (Li0.66Mn2O4) 444815-77-4  
 844635-55-8 844635-57-0 844635-60-5 844635-63-8  
 844635-64-9  
 (structure and manufacture of secondary lithium batteries having polymer  
 binder compns. in electrodes)

L109 ANSWER 5 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2004:823577 HCAPLUS Full-text  
 DOCUMENT NUMBER: 141:334868  
 TITLE: Polymer solid electrolyte  
 INVENTOR(S): Matsuyama, Mutsuhiro; Watanabe, Takeshi  
 PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

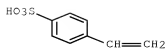
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004281147	A	20041007	JP 2003-68945	20030313

PRIORITY APPLN. INFO.: JP 2003-68945 20030313  
 <--

ED Entered STN: 08 Oct 2004  
 AB The electrolyte, especially for a secondary battery, is obtained by  
 solidifying a composition, which contains an anionic monomer and a cationic  
 monomer as required components, by heat treating.  
 IT 771584-09-9  
 (compns. of polymer electrolytes containing anionic monomers  
 and cationic monomers for secondary batteries)  
 RN 771584-09-9 HCAPLUS  
 CN 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, salt with  
 1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl]methanesulfonamide (1:1),  
 polymer with N,N-dimethyl-2-propenamide, 1,2-ethanediyl  
 bis(2-methyl-2-propenoate) and lithium 4-ethenylbenzenesulfonate (9CI)  
 (CA INDEX NAME)

CM 1

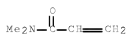
CRN 4551-88-6  
 CMF C8 H8 O3 S . Li



CM 2

CRN 2680-03-7

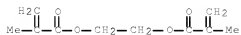
CMF C5 H9 N O



CM 3

CRN 97-90-5

CMF C10 H14 O4



CM 4

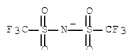
CRN 618880-84-5

CMF C8 H16 N . C2 F6 N O4 S2

CM 5

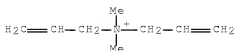
CRN 98837-98-0

CMF C2 F6 N O4 S2



CM 6

CRN 48042-45-1  
CMF C8 H16 N



IC ICM H01B001-06  
ICS C08F002-44; C08F212-14; C08L101-00; H01M010-40  
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
ST secondary battery polymer electrolyte cationic monomer  
anionic monomer  
IT Battery electrolytes  
Solid electrolytes  
(comps. of polymer electrolytes containing anionic monomers  
and cationic monomers for secondary batteries)  
IT 21324-40-3, Lithium hexafluorophosphate 771584-09-9  
771584-12-4 771584-14-6 771584-17-9  
(comps. of polymer electrolytes containing anionic monomers  
and cationic monomers for secondary batteries)

L109 ANSWER 6 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2004:100619 HCAPLUS Full-text  
DOCUMENT NUMBER: 140:131173  
TITLE: Electrolyte compositions for batteries  
and capacitors  
INVENTOR(S): Nakamura, Michiei; Yoshikawa, Sachio; Takizawa,  
Minoru; Fujita, Toshiyasu; Doi, Seiji; Kihara,  
Nobuhiro  
PATENT ASSIGNEE(S): Dainichiseika Color & Chemicals Mfg. Co., Ltd.,  
Japan  
SOURCE: U.S. Pat. Appl. Publ., 18 pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040023121	A1	20040205	US 2003-624671	20030723
			<--	
TW 283085	B	20070621	TW 2003-92119927	20030722
			<--	
JP 2004162019	A	20040610	JP 2003-200256	20030723
			<--	
JP 4164005	B2	20081008		
EP 1403948	A2	20040331	EP 2003-16544	20030724
			<--	
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
KR 2004011381	A	20040205	KR 2003-52242	20030729
			<--	
CN 1490355	A	20040421	CN 2003-158868	20030730
			<--	

PRIORITY APPLN. INFO.:

JP 2002-221903

A 20020730

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ED Entered STN: 08 Feb 2004

AB Ion-conducting (co)polymer media and ion-conducting oligomer media close in ion conductivity to organic-solvent-based electrolytes can be produced easily and safely on industrial scale. These ion-conducting (co)polymer media use (co)polymers containing at least one cyclocarbonato group, and these ion-conducting oligomer media employ oligomers containing at least two cyclocarbonato groups.

IT 64614-28-4DP, reaction products with carbon dioxide  
(electrolyte compns. for batteries and capacitors)

RN 64614-28-4 HCAPLUS

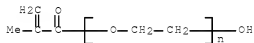
CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with  
 $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and oxiranymethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 25736-86-1

CMF (C2 H4 O)n C4 H6 O2

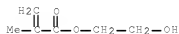
CCI PMS



CM 2

CRN 868-77-9

CMF C6 H10 O3



CM 3

CRN 106-91-2

CMF C7 H10 O3



IC ICM H01M010-40



ICS H01G009-025  
 INCL 429317000; 252062200; 429307000; 361525000; 525410000  
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
 Section cross-reference(s): 37, 38, 76  
 ST battery electrolyte compn; capacitor electrolyte compn  
 IT Capacitors  
     (double layer; electrolyte compns. for batteries and capacitors)  
 IT Battery electrolytes  
     (electrolyte compns. for batteries and capacitors)  
 IT Oligomers  
     Polymers, uses  
     Polyoxyalkylenes, uses  
     (electrolyte compns. for batteries and capacitors)  
 IT Secondary batteries  
     (lithium; electrolyte compns. for batteries and capacitors)  
 IT Textiles  
     (nonwoven or woven, shape-retaining material; electrolyte compns. for batteries and capacitors)  
 IT Carboxylic acids, uses  
     (polycarboxylic; electrolyte compns. for batteries and capacitors)  
 IT Epoxides  
     (polyepoxides; electrolyte compns. for batteries and capacitors)  
 IT Alcohols, uses  
     (polyhydric; electrolyte compns. for batteries and capacitors)  
 IT Phenols, uses  
     (polymers; electrolyte compns. for batteries and capacitors)  
 IT Polyolefins  
     (porous, shape-retaining material; electrolyte compns. for batteries and capacitors)  
 IT 96-48-0,  $\gamma$ -Butyrolactone 96-49-1, Ethylene carbonate 102-09-0, Diphenyl carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 429-07-2, Tetraethylammonium hexafluorophosphate 429-42-5, Tetrabutylammonium tetrafluoroborate 556-65-0, Lithium thiocyanate 616-38-6, Dimethyl carbonate 623-53-0, Methyl ethyl carbonate 872-36-6, Vinylene carbonate 2567-83-1, Tetraethylammonium perchlorate 7550-35-8, Lithium bromide 7791-03-9, Lithium perchlorate 10377-51-2, Lithium iodide 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 33454-82-9, Lithium triflate 90076-65-6, Lithium bis(trifluoromethanesulfonyl)imide  
     (electrolyte compns. for batteries and capacitors)  
 IT 111601-55-9P  
     (electrolyte compns. for batteries and capacitors)  
 IT 56-81-5DP, 1,2,3-Propanetriol, glycidyl derivs., polymers, reaction products with carbon dioxide 77-99-6DP, glycidyl derivs., polymers, reaction products with carbon dioxide 115-77-5DP, glycidyl derivs., polymers, reaction products with carbon dioxide 25067-05-4DP, reaction products with carbon dioxide 28472-86-8DP, reaction products with carbon dioxide 29734-45-0DP, reaction products with carbon dioxide 38811-11-9DP, reaction products with carbon dioxide 54847-49-3DP, reaction products with carbon dioxide 58782-18-6DP, reaction products with carbon dioxide 64614-28-4DP, reaction products with carbon dioxide 75503-85-4DP, reaction products with

carbon dioxide 149797-02-4DP, reaction products with carbon dioxide  
(electrolyte compns. for batteries and capacitors)

L109 ANSWER 7 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2002:573561 HCAPLUS Full-text  
DOCUMENT NUMBER: 137:143032  
TITLE: Polymer solid electrolyte,  
electrochemical element using the  
electrolyte, and secondary battery  
INVENTOR(S): Maeda, Seiji; Saito, Takaichiro  
PATENT ASSIGNEE(S): Nippon Synthetic Chemical Industry Co., Ltd.,  
Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002216845	A	20020802	JP 2001-10621	20010118
			<--	
PRIORITY APPLN. INFO.:			JP 2001-10621	20010118
			<--	

ED Entered STN: 02 Aug 2002

AB The electrolyte has an electrolyte salt in a polymer matrix, which is a crosslinked copolymer of a urethane (meth)acrylate and monomer CH<sub>2</sub>:CRCO[(OCH<sub>2</sub>CH<sub>2</sub>)<sub>k</sub>(OC<sub>3</sub>H<sub>6</sub>)<sub>l</sub>(OCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>)<sub>m</sub>]OR', where R = H or Me, R' = H, C<sub>1</sub>-18 (branched) alkyl group, k, l, and m = integers and (k+l+m) ≥ 1. The electrochem. element and secondary Li battery use the electrolyte.

IT 444815-77-4 444815-79-6  
(electrolytes containing urethane acrylate-oxyalkylene acrylate crosslinked copolymer matrixes for secondary lithium batteries)

RN 444815-77-4 HCAPLUS

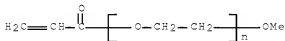
CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, methyloxirane, oxirane and α-(1-oxo-2-propenyl)-ω-methoxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 32171-39-4

CMF (C2 H4 O)n C4 H6 O2

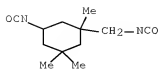
CCI PMS



CM 2

CRN 4098-71-9

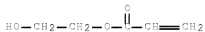
CMF C12 H18 N2 O2



CM 3

CRN 818-61-1

CMF C5 H8 O3



CM 4

CRN 75-56-9

CMF C3 H6 O



CM 5

CRN 75-21-8

CMF C2 H4 O

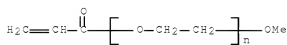


RN 444815-79-6 HCAPLUS

CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with  
 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, oxirane,  
 $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-ethanediyl) and  
 tetrahydrofuran (9CI) (CA INDEX NAME)

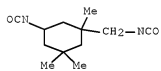
CM 1

CRN 32171-39-4  
 CMF (C2 H4 O)<sub>n</sub> C4 H6 O2  
 CCI PMS



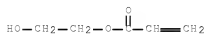
CM 2

CRN 4098-71-9  
 CMF C12 H18 N2 O2



CM 3

CRN 818-61-1  
 CMF C5 H8 O3



CM 4

CRN 109-99-9  
 CMF C4 H8 O



CM 5

CRN 75-21-8

CMF C2 H4 O



IC ICM H01M010-40  
 ICS C08F002-44; C08F002-50; C08F290-06; C08F299-02; C08K005-00;  
 C08L071-00; H01B001-06

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST secondary lithium battery electrolyte acrylate crosslinked  
 copolymer; urethane polyoxyalkylene acrylate crosslinked copolymer  
 battery electrolyte; electrochem element electrolyte  
 acrylate crosslinked copolymer

IT Battery electrolytes  
 (electrolytes containing urethane acrylate-oxyalkylene  
 acrylate crosslinked copolymer matrixes for secondary lithium  
 batteries)

IT 14283-07-9, Lithium fluoroborate 90076-65-6 444815-77-4  
 444815-78-5 444815-79-6  
 (electrolytes containing urethane acrylate-oxyalkylene  
 acrylate crosslinked copolymer matrixes for secondary lithium  
 batteries)

L109 ANSWER 8 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:479823 HCAPLUS Full-text

DOCUMENT NUMBER: 135:83350

TITLE: Hyperbranched polymers, their preparation,  
 solid electrolytes therefrom,  
 and electrochemical apparatus therewith

INVENTOR(S): Sato, Masahiro; Tanba, Atsushi; Osawa, Toshiyuki;  
 Oshima, Kentaro

PATENT ASSIGNEE(S): Kansai Research Institute Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

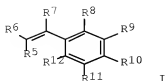
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001181352	A	20010703	JP 1999-371750	19991227
			<--	
PRIORITY APPLN. INFO.:			JP 1999-371750	19991227
			<--	

ED Entered STN: 03 Jul 2001

GI



AB The polymers, showing high ion conductivity and solid strength, are prepared by polymerization of  $R_1R_2C:CR_3CO_2(CH_2CH_2O)_nR_4$  ( $R_1-3 = H$ ,  $C_1-4$  alkyl;  $R_4 = H$ ,  $C_1-4$  alkyl,  $C_1-4$  acyl;  $n = 1-20$  integer), I ( $R_5-7 = H$ ,  $C_1-4$  alkyl;  $R_8-12 = H$ , halo,  $C_1-4$  (halo)alkyl, where  $\geq 1$  of them is  $C_1-4$   $\alpha$ -haloalkyl), and optional  $R_1R_4C:CR_15CO_2(CH_2CH_2O)_mP(:O)(OH)_2$  ( $R_{13}-15 = H$ ,  $C_1-4$  alkyl;  $m = 1-20$  integer). The polymers may be crosslinked with acrylic and/or styrenic crosslinkers. The polymers may be subjected to living radical polymerization offering dendritic graft polymers and may be cation exchanged with Li giving solid electrolytes for Li secondary batteries.

IT 347188-26-5DP, Li complexes 347188-27-6DE, Li complexes  
(dendritic; polyethylene-branched hyperbranched graft polymers for high-ion-conductivity battery electrolytes)

RN 347188-26-5 HCAPLUS

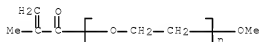
CN 2-Propenoic acid, 2-methyl-, 2-(phosphonooxy)ethyl ester, polymer with 1-(chloromethyl)-4-ethenylbenzene and  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0

CMF (C2 H4 O) $_n$  C5 H8 O2

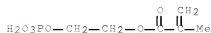
CCI PMS



CM 2

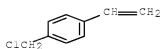
CRN 24599-21-1

CMF C6 H11 O6 P



CM 3

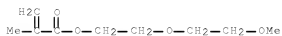
CRN 1592-20-7  
CMF C9 H9 Cl



RN 347188-27-6 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 2-(2-methoxyethoxy)ethyl ester, polymer with 1-(chloromethyl)-4-ethenylbenzene and 2-propenenitrile (9CI) (CA INDEX NAME)

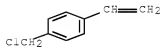
CM 1

CRN 45103-58-0  
CMF C9 H16 O4



CM 2

CRN 1592-20-7  
CMF C9 H9 Cl



CM 3

CRN 107-13-1  
CMF C3 H3 N



IC ICM C08F220-28  
ICS C08F004-10; C08F212-04; H01G009-028; H01M010-40  
CC 72-3 (Electrochemistry)  
Section cross-reference(s): 38, 52, 76

- ST lithium battery electrolyte ion cond strength; dendritic polyethylene branching polymer battery electrolyte
- IT Crosslinking agents  
(acrylic and/or styrenic; polyethylene-branched hyperbranched graft polymers for high-ion-conductivity battery electrolytes)
- IT Polyoxyalkylenes, uses  
(acrylic, graft, dendritic, Li complexes; polyethylene-branched hyperbranched graft polymers for high-ion-conductivity battery electrolytes)
- IT Electric apparatus  
(electrochem.; polyethylene-branched hyperbranched graft polymers for high-ion-conductivity battery electrolytes)
- IT Polymerization  
(graft, living radical; polyethylene-branched hyperbranched graft polymers for high-ion-conductivity battery electrolytes)
- IT Dendritic polymers  
(graft; polyethylene-branched hyperbranched graft polymers for high-ion-conductivity battery electrolytes)
- IT Secondary batteries  
(lithium; polyethylene-branched hyperbranched graft polymers for high-ion-conductivity battery electrolytes)
- IT Polymerization  
(living, radical, graft; polyethylene-branched hyperbranched graft polymers for high-ion-conductivity battery electrolytes)
- IT Battery electrolytes  
Solid electrolytes  
(polyethylene-branched hyperbranched graft polymers for high-ion-conductivity battery electrolytes)
- IT 152253-76-4DP, Li complexes 347188-26-5DP, Li complexes 347188-27-6DP, Li complexes  
(dendritic; polyethylene-branched hyperbranched graft polymers for high-ion-conductivity battery electrolytes)
- IT 347188-28-7DP, Li complexes  
(graft; polyethylene-branched hyperbranched graft polymers for high-ion-conductivity battery electrolytes)
- IT 553-26-4D, 4,4'-Bipyridyl, complexes with copper chloride 7758-89-6D, Copper(I) chloride, bipyridyl complexes  
(living radical polymerization catalysts; polyethylene-branched hyperbranched graft polymers for high-ion-conductivity battery electrolytes)
- IT 7439-93-2DP, Lithium, polyoxyethylene-branch-bearing dendritic polymer complexes, uses  
(polyethylene-branched hyperbranched graft polymers for high-ion-conductivity battery electrolytes)

L109 ANSWER 9 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:276179 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 135:47163

TITLE: Preparation, structure and electrochemical properties of Ppy/solid-state polymer electrolyte bilayer composites

AUTHOR(S): Su, Jing; Fang, Bin; Wang, Geng-chao; Shi, Yu-zheng

CORPORATE SOURCE: Institute of Material Science and Engineering, East China University of Science and Technology, Shanghai, 200237, Peop. Rep. China

SOURCE: Gongneng Gaofenzi Xuebao (2001), 14(1), 71-75

CODEN: GGXUEH; ISSN: 1004-9843

PUBLISHER: Gongneng Gaofenzi Xuebao Bianjibu



DOCUMENT TYPE: Journal  
 LANGUAGE: Chinese

ED Entered STN: 19 Apr 2001

AB Ppy/solid-state polymer electrolyte bilayer composites were prepared in situ by electrochem. polymerization of pyrrole in solid-state polymer electrolyte (PEO-LiClO<sub>4</sub>). The interfacial structure of bilayer composites and electrochem. doping-undoping behavior were investigated using SEM, cyclic voltammetry and frequency response anal. resp. Ppy/solid-state polymer electrolyte bilayer composites possess the interpenetrating solid/solid interfacial structure and enhanced interfacial contact, and the electrochem. doping-undoping behavior of Ppy in solid state polymer electrolyte cells was enhanced owing to the enhanced interfacial contact.

IT 9965-78-7

(preparation, structure and electrochem. properties of polypyrrole/solid-state polymer electrolyte bilayer composites)

RN 9065-70-7 HCAPLUS

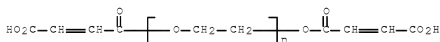
CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -[(2Z)-3-carboxy-1-oxo-2-propenyl]- $\omega$ -[[[(2Z)-3-carboxy-1-oxo-2-propenyl]oxy]-, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 36247-43-5

CMF (C2 H4 O)<sub>n</sub> C8 H6 O7

CCI PMS



CM 2

CRN 100-42-5

CMF C8 H8



CC 38-3 (Plastics Fabrication and Uses)

ST polypyrrole solid state electrolyte bilayer composite

IT Membranes, nonbiological

(composite; preparation, structure and electrochem. properties of polypyrrole/solid-state polymer electrolyte bilayer composites)

IT Electric impedance

(preparation, structure and electrochem. properties of polypyrrole/solid-state polymer electrolyte bilayer composites)

IT Polycarbonates, uses

(preparation, structure and electrochem. properties of polypyrrole/  
solid-state polymer electrolyte bilayer  
composites)

IT 7791-03-9, Lithium Perchlorate  
(preparation, structure and electrochem. properties of polypyrrole/  
solid-state polymer electrolyte bilayer  
composites)

IT 9065-70-7 30604-81-0, Polypyrrole  
(preparation, structure and electrochem. properties of polypyrrole/  
solid-state polymer electrolyte bilayer  
composites)

L109 ANSWER 10 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2000:723506 HCAPLUS Full-text

DOCUMENT NUMBER: 133:297365

TITLE: Preparation of crosslinkable-type polymeric  
solid electrolytes with good  
film strength and high ionic conductivity for  
high-temperature-operation-type large secondary  
battery

INVENTOR(S): Hirahara, Kazuhiro; Nakanishi, Itaru

PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2000285751	A	20001013	JP 2000-14708	20000124
			<--	
PRIORITY APPLN. INFO.:			JP 1999-21406	A 19990129
			<--	

ED Entered STN: 13 Oct 2000

AB The crosslinked polymeric solid electrolyte is prepared by mixing a self-crosslinkable block graft copolymer consisting of (A) -CH<sub>2</sub>C[p-C<sub>6</sub>H<sub>4</sub>(CH<sub>2</sub>CH(R<sub>2</sub>O)nR<sub>3</sub>)R<sub>1</sub>- blocks [R<sub>1</sub> = H, Me, Et; R<sub>2</sub> = H, Me; R<sub>3</sub> = alkyl, aryl, acyl, silyl, cyanoalkyl; n = 1-100; mol. weight of graft chains (CH<sub>2</sub>CH(R<sub>2</sub>O)nR<sub>3</sub> = 45-4400], (B) -CH<sub>2</sub>C[p-C<sub>6</sub>H<sub>4</sub>(CH<sub>2</sub>)yCH:CH<sub>2</sub>]R<sub>4</sub>- blocks (R<sub>4</sub> = H, Me, Et; y = 2, 3), and/or (C) -(CH<sub>2</sub>C(R<sub>4</sub>)[p-C<sub>6</sub>H<sub>4</sub>(CH<sub>2</sub>)yCH:CH<sub>2</sub>]}m[CH<sub>2</sub>C(Ph)R<sub>5</sub>]k-(R<sub>4</sub>, R<sub>5</sub> = H, Me, ethyl; y = 2,3; k ≥ 200; k/m = 95:5-50/50) with a reactive polyalkylene oxide H<sub>2</sub>C:C(R<sub>6</sub>)COO(R<sub>9</sub>)eX(CH<sub>2</sub>CH(R<sub>7</sub>)O)fR<sub>8</sub> (R<sub>6</sub>, R<sub>7</sub> = H methyl; R<sub>8</sub> = H<sub>2</sub>O:CHCO-, H<sub>2</sub>C:C(CH<sub>3</sub>)CO-, vinyl, allyl, epoxide, C<sub>2</sub>S<sub>2</sub>alkyl, (un)substituted Ph; R<sub>9</sub> = ethylene oxide, tetramethylene oxide; e + f = 0-25; X = -PhC(CH<sub>3</sub>)<sub>2</sub>PhO-), and a lithium inorg. salt, and crosslinking the self-crosslinkable block graft copolymer with reactive polyalkylene oxide. Thus, 5.0 parts poly[butenyl styrene-b-(p-hydroxystyrene-g-ethylene oxide)-b-butenyl styrene] was mixed with methoxypolyethylene glycol monomethacrylate 2.0, polyethylene glycol diacrylate 1.0 and LiClO<sub>4</sub> 0.5 parts, was cast onto a plate, irradiated with 10 Mrad electron beam, and vacuum-dried at 100° for 20 h, to give a film showing storage elastic modulus 9.5 x 10<sup>6</sup> Pa at 30° and ≥8.4 x 10<sup>6</sup> Pa at 80°.

IT 301345-06-4P

(preparation of polymeric solid electrolytes by  
crosslinking styrene-based block graft copolymers with reactive  
polyalkylene oxides)

RN 301345-08-4 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with 1-(3-butenyl)-4-ethenylbenzene, ethenylbenzene, methyloxirane polymer with oxirane mono(2-methyl-2-propenoate) octyl ether, oxirane, oxirane polymer with tetrahydrofuran 2-methyl-2-propenoate and  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -[(1-oxo-2-propenyl)oxy]poly[oxy(methyl-1,2-ethanediyl)] (9CI) (CA INDEX NAME)

CM 1

CRN 52496-08-9

CMF (C3 H6 O)<sub>n</sub> C6 H6 O3

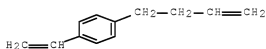
CCI IDS, PMS



CM 2

CRN 5676-28-8

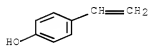
CMF C12 H14



CM 3

CRN 2628-17-3

CMF C8 H8 O



CM 4

CRN 100-42-5

CMF C8 H8



CM 5

CRN 75-21-8  
 CMF C2 H4 O



CM 6

CRN 125387-10-2  
 CMF (C4 H8 O . C2 H4 O)x . x C4 H6 O2

CM 7

CRN 79-41-4  
 CMF C4 H6 O2



CM 8

CRN 27637-03-2  
 CMF (C4 H8 O . C2 H4 O)x  
 CCI PMS

CM 9

CRN 109-99-9  
 CMF C4 H8 O



CM 10

CRN 75-21-8  
 CMF C2 H4 O



CM 11

CRN 123939-68-4

CMF C8 H18 O . C4 H6 O2 . (C3 H6 O . C2 H4 O)x

CM 12

CRN 111-87-5

CMF C8 H18 O



CM 13

CRN 79-41-4

CMF C4 H6 O2



CM 14

CRN 9003-11-6

CMF (C3 H6 O . C2 H4 O)x

CCI PMS

CM 15

CRN 75-56-9

CMF C3 H6 O



CM 16

CRN 75-21-8  
CMF C2 H4 O



- IC ICM H01B013-00  
ICS C08F002-44; C08F290-12; C08F299-00; C08J003-24; C08L055-00;  
H01G009-028; H01M006-18; H01M010-40; H01B001-06
- CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 37, 52
- ST styrene polyoxyalkylene graft block solid  
electrolyte; butenyl styrene polyoxyalkylene electron beam  
crosslinking; secondary battery polymeric solid  
electrolyte
- IT Polyoxyalkylenes, uses  
(crosslinked; preparation of polymeric solid  
electrolytes by crosslinking styrene-based block graft  
copolymers with reactive polyalkylene oxides)
- IT Battery electrolytes  
Ionic conductors  
Solid electrolytes  
(preparation of polymeric solid electrolytes by  
crosslinking styrene-based block graft copolymers with reactive  
polyalkylene oxides)
- IT 301345-00-6P, p-(3-Butenyl)styrene-ethylene  
oxide-p-hydroxystyrene-methoxypolyethylene glycol  
monomethacrylate-polyethylene glycol diacrylate copolymer  
301345-01-7P, p-(3-Butenyl)styrene-ethylene  
oxide-p-hydroxystyrene-methoxypolyethylene glycol  
monoacrylate-polypropylene glycol dimethacrylate copolymer  
301345-02-8P 301345-03-9P 301345-04-0P 301345-06-4P  
(preparation of polymeric solid electrolytes by  
crosslinking styrene-based block graft copolymers with reactive  
polyalkylene oxides)
- IT 7791-03-9, Lithium perchlorate 14283-07-9, Lithium tetrafluoroborate  
21324-40-3, Lithium hexafluorophosphate 29935-35-1, Lithium  
hexafluoroarsenate 33454-82-9, Lithium trifluoromethanesulfonate  
(preparation of polymeric solid electrolytes by  
crosslinking styrene-based block graft copolymers with reactive  
polyalkylene oxides)

L109 ANSWER 11 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2000:715631 HCAPLUS Full-text  
DOCUMENT NUMBER: 133:297308  
TITLE: Manufacture of crosslinked solid polymer  
electrolytes having excellent moldability,  
film strength, and high ion conductivity  
INVENTOR(S): Hirahara, Kazuhiro; Nakanishi, Toru  
PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.  
CODEN: JKXXXF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000281737	A	20001010	JP 2000-14703	20000124
US 6322924	B1	20011127	US 2000-493278	20000128
PRIORITY APPLN. INFO.:			JP 1999-21405	A 19990129

ED Entered STN: 11 Oct 2000

AB The polymers are manufactured by crosslinking a mixture of reactive polyalkylene oxides H2C:CR5CO2R8kX(CH2CHR6O)mR7 (R5, R6 = H, Me; R7 = H2C:CHCO, H2C:CMeco, vinyl, etc.; R8 = oxyethylene, oxytetramethylene; k, m = 0-25; k = m ≠ 0; X = C6H4CMe2C6H4O, single bond), inorg. Li salts, and block-graft copolymers having units of CH2CR1[C6H4-p-O(CH2CHR2O)nR3] (R1 = H, Me, Et; R2 = H, Me; R3 = alkyl, aryl, acyl, silyl, cyanoalkyl; n = 1-100, number-average mol. weight of graft chain 45-4400), CH2CR4M [R4 = H, Me, Et; M = CH:CH2, CMe:CH2, CO2Me, CO2Et, (un)substituted Ph] and/or CH2CR9(C6H4-p-SiR10R11R12) (R10-R12 = Me, Et; R9 = H, Me, Et). Thus, a composition containing poly[styrene-b-(p-hydroxystyrene-g-ethylene oxide)-b-styrene] 5.0, polyethylene glycol monomethacrylate Me ether 2.0, polyethylene glycol diacrylate 1.0, and LiClO4 0.5 g was applied on a petri, and irradiated by electron beam to give a film showing storage elastic modulus at 80° 4.3 + 106 Pa and ion conductivity at 80° 0.8 + 10-3 S/cm.

IT 300766-09-00P  
(manufacture of crosslinked solid polymeric electrolytes having good moldability, film strength, and high ion conductivity)

RN 300766-09-0 HCAPLUS

CN Phenol, 4-ethenyl-, polymer with ethenylbenzene, methyloxirane polymer with oxirane bis(2-methyl-2-propenoate), methyloxirane polymer with oxirane mono(2-methyl-2-propenoate) octyl ether, oxirane and α-(1-oxo-2-propenyl)-ω-[(1-oxo-2-propenyl)oxy]poly[oxy(methyl-1,2-ethanediy)] (9CI) (CA INDEX NAME)

CM 1

CRN 52496-08-9

CMF (C3 H6 O)n C6 H6 O3

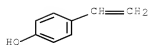
CCI IDS, PMS



CM 2

CRN 2628-17-3

CMF C8 H8 O



CM 3

CRN 100-42-5

CMF C8 H8



CM 4

CRN 75-21-8

CMF C2 H4 O



CM 5

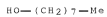
CRN 123939-68-4

CMF C8 H18 O . C4 H6 O2 . (C3 H6 O . C2 H4 O)x

CM 6

CRN 111-87-5

CMF C8 H18 O



CM 7

CRN 79-41-4

CMF C4 H6 O2





CM 8

CRN 9003-11-6

CMF (C3 H6 O . C2 H4 O) x

CCI PMS

CM 9

CRN 75-56-9

CMF C3 H6 O



CM 10

CRN 75-21-8

CMF C2 H4 O



CM 11

CRN 87003-89-2

CMF C4 H6 O2 . 1/2 (C3 H6 O . C2 H4 O) x

CM 12

CRN 79-41-4

CMF C4 H6 O2



CM 13

CRN 9003-11-6

CMF (C3 H6 O . C2 H4 O) x

CCI PMS

CM 14

CRN 75-56-9

CMF C3 H6 O



CM 15

CRN 75-21-8

CMF C2 H4 O



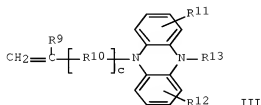
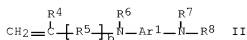
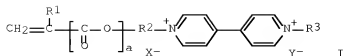
- IC ICM C08F299-02  
ICS C08F293-00; C08J003-24; H01B013-00; H01M006-18; H01M010-40;  
H01B001-06
- CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 52
- ST crosslinkable solid polymer electrolyte manuf;  
secondary battery solid polymer electrolyte;  
styrene ethylene oxide graft polymer; lithium alkylene oxide polymer  
complex
- IT Secondary batteries  
Solid electrolytes  
(manufacture of crosslinked solid polymeric  
electrolytes having good moldability, film strength, and  
high ion conductivity)
- IT 300720-07-4P, Ethylene oxide-p-hydroxystyrene-methoxy polyethylene  
glycol monomethacrylate-polyethylene glycol diacrylate-styrene  
copolymer 300720-08-5P, Ethylene oxide-p-hydroxystyrene-polyethylene  
glycol monoacrylate methyl ether-polypropylene glycol  
dimethacrylate-styrene copolymer 300720-09-6P, Ethylene  
oxide-p-hydroxystyrene-polyethylene glycol monomethacrylate allyl  
ether-polyethylene glycol monomethacrylate methyl ether-styrene  
copolymer 300720-10-9P, Ethylene  
oxide-p-hydroxystyrene-polypropylene glycol diacrylate-polyethylene  
glycol monoacrylate lauryl ether-styrene copolymer 300720-11-0P,  
Ethylene oxide-p-hydroxystyrene-polyethylene glycol monoacrylate allyl  
ether-polyethylene glycol monoacrylate methyl  
ether-p-trimethylsilylstyrene copolymer 300766-09-0P  
(manufacture of crosslinked solid polymeric  
electrolytes having good moldability, film strength, and  
high ion conductivity)
- IT 7791-03-9, Lithium perchlorate 14283-07-9, Lithium tetrafluoroborate

21324-40-3, Lithium hexafluorophosphate 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium trifluoromethanesulfonate (manufacture of crosslinked solid polymeric electrolytes having good moldability, film strength, and high ion conductivity)

IT 131175-12-7, Ethylene oxide-p-hydroxystyrene-styrene block graft copolymer (manufacture of crosslinked solid polymeric electrolytes having good moldability, film strength, and high ion conductivity)

L109 ANSWER 12 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2000:277719 HCAPLUS Full-text  
 DOCUMENT NUMBER: 132:315620  
 TITLE: Electrochromic device  
 INVENTOR(S): Nishikitani, Yoshinori; Sugiura, Izuru; Kobayashi, Masaaki; Imafuku, Hiroshi  
 PATENT ASSIGNEE(S): Nippon Mitsubishi Oil Corporation, Japan  
 SOURCE: Eur. Pat. Appl., 40 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	-----
EP 995786	A1	20000426	EP 1999-850155	19991020
			<--	
EP 995786	B1	20030108		
			R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO	
JP 2000131722	A	20000512	JP 1998-300764	19981022
			<--	
US 6208452	B1	20010327	US 1999-425330	19991022
			<--	
PRIORITY APPLN. INFO.:			JP 1998-300764	A 19981022
			<--	
ED Entered STN: 28 Apr 2000				
GI				



AB Electrochromic devices are described which comprise an ion conductive layer obtained by curing a composition comprising a bipyridinium compound described by the general formula I (X- and Y- = anions independently selected from halo anion, ClO4-, BF4-, PF6-, CH3COO- and CH3(C6H4)SO3-; R1 = H or Cl-5 alkyl; R2 = Cl-30 divalent hydrocarbon or oxygen-containing hydrocarbon; R3 = Cl-1-20 hydrocarbon or oxygen-containing hydrocarbon group; and a = 0 or 1); an amine compound described by the general formulas II and/or III (R4 = H or Cl-5 alkyl; R5 = Cl-15 hydrocarbon or oxygen-containing hydrocarbon; b = 0 or 1; R6 and R7 = the same or different and = each H or Cl-20 hydrocarbon or oxygen-containing hydrocarbon; R8 = H or Cl-20 hydrocarbon or oxygen-containing hydrocarbon; Ar1 = C6-20 divalent aromatic hydrocarbon; R9 = H or Cl-5 alkyl; R10 = Cl-15 hydrocarbon or oxygen-containing hydrocarbon; c = 0 or 1; R11 and R12 = independently selected H or Cl-20 hydrocarbon or oxygen-containing hydrocarbon; and R13 = H or Cl-20 hydrocarbon or oxygen-containing hydrocarbon group); and a precursor component of a polymeric solid electrolyte, disposed between two elec. conductive substrates at least one of which is transparent. The ion conductive layer may addnl. incorporate an UV-absorbing compound having an ethylenic double bond.

IT 265648-12-2 265648-15-5 265648-17-7  
(electrochromic devices with cured ion conductive layers)

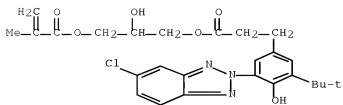
RN 265648-12-2 HCAPLUS

CN 4,4'-Bipyridinium, 1-[(ethenylphenyl)methyl]-1'-(phenylmethyl)-, dichloride, polymer with N-[4-(diphenylamino)phenyl]-2-methyl-2-propenamide, 2-hydroxy-3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl 3-(5-chloro-2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxybenzenepropanoate,  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-ethanediy) and  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -[(2-methyl-1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediy) (9CI) (CA INDEX NAME)

CM 1

CRN 253588-79-3

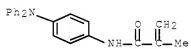
CMF C26 H30 C1 N3 O6



CM 2

CRN 163684-75-1

CMF C22 H20 N2 O



CM 3

CRN 71036-55-0

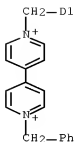
CMF C26 H24 N2 . 2 Cl

CCI IDS

PAGE 1-A



D1-CH=CH2

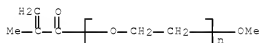


CM 4

CRN 26915-72-0

CMF (C2 H4 O)<sub>n</sub> C5 H8 O2

CCI PMS

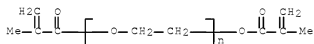


CM 5

CRN 25852-47-5

CMF (C2 H4 O)<sub>n</sub> C8 H10 O3

CCI PMS



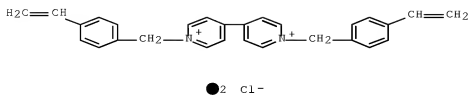
RN 265648-15-5 HCAPLUS

CN 4,4'-Bipyridinium, 1,1'-bis[(4-ethenylphenyl)methyl]-, dichloride, polymer with N-[4-(diphenylamino)phenyl]-2-methyl-2-propenamide, 1-[(ethenylphenyl)methyl]-1'-(phenylmethyl)-4,4'-bipyridinium dichloride,  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-ethanediyl) and  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -[(2-methyl-1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

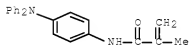
10/571,998

CRN 232599-55-2  
CMF C28 H26 N2 . 2 Cl



CM 2

CRN 163684-75-1  
CMF C22 H20 N2 O



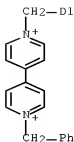
CM 3

CRN 71036-55-0  
CMF C26 H24 N2 . 2 Cl  
CCI IDS



D1-CH=CH2

PAGE 1-A

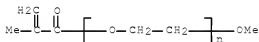


CM 4

CRN 26915-72-0

CMF (C2 H4 O)<sub>n</sub> C5 H8 O2

CCI PMS

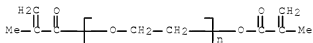


CM 5

CRN 25852-47-5

CMF (C2 H4 O)<sub>n</sub> C8 H10 O3

CCI PMS



RN 265648-17-7 HCAPLUS

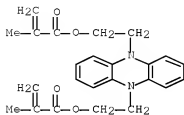
CN 4,4'-Bipyridinium, 1-[(ethenylphenyl)methyl]-1'-(phenylmethyl)-, bis[tetrafluoroborate(1-)], polymer with 2-hydroxy-3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl 3-(5-chloro-2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxybenzenepropanoate,  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-ethanediyl),  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -[(2-methyl-1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) and 5,10-phenazinediyl-di-2,1-ethanediyl bis(2-methyl-2-propenoate) (9CI) (CA INDEX NAME)



CM 1

CRN 265326-65-6

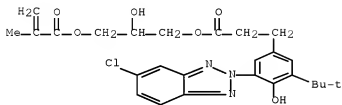
CMF C24 H26 N2 O4



CM 2

CRN 253588-79-3

CMF C26 H30 C1 N3 O6

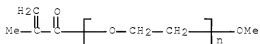


CM 3

CRN 26915-72-0

$$\text{CMF} \quad (\text{C}_2 \text{ H}_4 \text{ O})_n \text{ C}_5 \text{ H}_8 \text{ O}_2$$

CCI    PMS

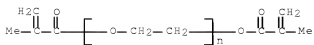


CM 4

CRN 25852-47-5

$$\text{CMF} \quad (\text{C}_2 \text{ H}_4 \text{ O})_n \text{ C}_8 \text{ H}_{10} \text{ O}_3$$

CCI	PMS
-----	-----



CM 5

CRN 99774-26-2

CMF C26 H24 N2 . 2 B F4

CM 6

CRN 73764-07-5

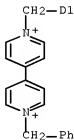
CMF C26 H24 N2

CCI IDS

PAGE 1-A



PAGE 2-A



CM 7

CRN 14874-70-5

CMF B F4

CCI CCS

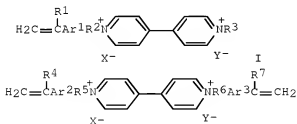


IC ICM C09K009-02  
ICS G02F001-15  
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
Section cross-reference(s): 72, 74, 76  
IT 265648-12-2 265648-15-5 265648-17-7  
(electrochromic devices with cured ion conductive layers)  
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L109 ANSWER 13 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 1999:426976 HCAPLUS [Full-text](#)  
DOCUMENT NUMBER: 131:123026  
TITLE: Electrochromic devices  
INVENTOR(S): Sugiura, Izuru; Kobayashi, Masaaki; Nishikitani, Yoshinori  
PATENT ASSIGNEE(S): Nippon Oil Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11183940	A	19990709	JP 1997-364869	19971219
			<--	
PRIORITY APPLN. INFO.:			JP 1997-364869	19971219
			<--	

ED Entered STN: 12 Jul 1999  
GI



II

AB The devices comprise:  $\geq 1$  transparent conductive layer; and a polymer solid electrolyte comprising a polymer or a copolymer of reactive viologen compds., I and/or II (X-, Y- = halo anion, ClO4-, BF4-, PF6-, CH3COO-, CH3(C6H4)SO3-;

R1, R4, R7 = H, C1-5 alkyl; R2, R5, R6 = C1-10 divalent hydrocarbon; R3 = C1-20 hydrocarbon; Ar1-3 = divalent aromatic hydrocarbon).

IT 232605-52-6 232605-54-8

(electrochromic devices)

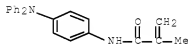
RN 232605-52-6 HCAPLUS

CN 4,4'-Bipyridinium, 1-[(ethenylphenyl)methyl]-1'-(phenylmethyl)-, polymer with N-[4-(diphenylamino)phenyl]-2-methyl-2-propenamide,  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-ethanediyl) and  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -[(2-methyl-1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 163684-75-1

CMF C22 H20 N2 O



CM 2

CRN 73764-07-5

CMF C26 H24 N2

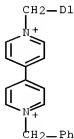
CCI IDS

PAGE 1-A



D1-CH=CH2

PAGE 2-A

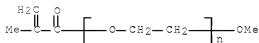


CM 3

CRN 26915-72-0

CMF (C2 H4 O)n C5 H8 O2

CCI PMS

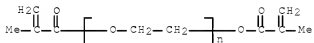


CM 4

CRN 25852-47-5

CMF (C2 H4 O)n C8 H10 O3

CCI PMS



RN 232605-54-8 HCAPLUS

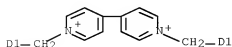
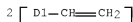
CN 4,4'-Bipyridinium, 1,1'-bis[(ethenylphenyl)methyl]-, polymer with  
 N-[4-(diphenylamino)phenyl]-2-methyl-2-propenamide,  
 $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-  
 ethanediyl) and  $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -[(2-methyl-  
 1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 214272-82-9

CMF C28 H26 N2

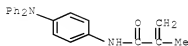
CCI IDS



CM 2

CRN 163684-75-1

CMF C22 H20 N2 O

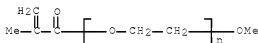


CM 3

CRN 26915-72-0

CMF (C2 H4 O)n C5 H8 O2

CCI PMS

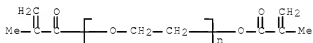


CM 4

CRN 25852-47-5

CMF (C2 H4 O)n C8 H10 O3

CCI PMS



IC ICM G02F001-15

ICS G02F001-15

CC 74-9 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 73

ST electrochromic viologen polymer solid electrolyte

IT Electrochromic devices

Solid electrolytes

(electrochromic devices)

IT 1332-29-2, Tin oxide 50926-11-9, ITO 232605-52-6

232605-54-3 232605-56-0 232605-58-2

(electrochromic devices)

L109 ANSWER 14 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

AUTHOR(S):	Xu, Wu; Siow, Kok-Siong; Gao, Zhiqiang; Lee, Swee-Yong; Chow, Pei-Yong; Gan, Leong-Ming
CORPORATE SOURCE:	Department of Chemistry, National University of Singapore (NUS), Singapore, 119260, Singapore
SOURCE:	Langmuir (1999), 15(14), 4812-4819 CODEN: LANGD5; ISSN: 0743-7463
PUBLISHER:	American Chemical Society
DOCUMENT TYPE:	Journal
LANGUAGE:	English

ED Entered STN: 15 Jun 1999

AB Microporous polymeric electrolytes were prepared from microemulsion polymerization of the system containing acrylonitrile (AN), 4-vinylbenzenesulfonic acid lithium salt (VBSLi), ethylene glycol dimethacrylate (EGDMA),  $\alpha$ -methoxy poly(ethyleneoxy)40 undecyl- $\alpha$ -methacrylate (C1-PEO-C11-MA-40), and water. The polymerized-microemulsion solids or membranes have open-cell porous microstructure. The water content in membranes can readily be exchanged with many organic solvents such as  $\gamma$ -butyrolactone (BL), a mixture of ethylene carbonate (EC) and di-Me carbonate (DMC) or propylene carbonate (PC) and EC. The membranes can also be filled with electrolyte solns. such as 1 M LiBF<sub>4</sub>/BL, 1 M LiSO<sub>3</sub>CF<sub>3</sub>/PC-EC, or 1 M LiClO<sub>4</sub>/EC-DMC to form polymeric composite electrolytes. Such composite electrolytes, exhibiting ionic conductivity of 10-3 S cm<sup>-1</sup> (25°) are suitable for use in electrochem. devices.

IT 237770-04-6DE Acrylonitrile-ethylene glycol dimethacrylate-4-vinylbenzenesulfonic acid, lithium salt-*o*-methoxy poly(ethyleneoxy) 40-undecyl- $\alpha$ -methacrylate copolymer, lithium complexes  
(effects of composition and microemulsion polymerization conditions on structure of microporous poly(ether acrylate)-lithium salt composite electrolytes)

RN 237770-04-6 HCAPLUS

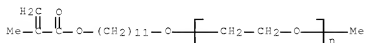
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with lithium 4-ethynylbenzenesulfonate,  $\alpha$ -methyl- $\omega$ -[[11-[(2-methyl-1-oxo-2-propenyl)oxy]undecyl]oxy]poly(oxy-1,2-ethanediyl) and 2-propenenitrile (9CI) (CA INDEX NAME)

CM 1

CRN 174508-47-5

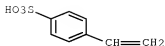
CMF (C2 H4 O)<sub>n</sub> C16 H30 O3

CCI PMS



71

CRN 4551-88-6  
 CMF C8 H8 O3 S . Li



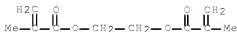
CM 3

CRN 107-13-1  
 CMF C3 H3 N



CM 4

CRN 97-90-5  
 CMF C10 H14 O4



- CC 35-4 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 36, 72
- ST polymer electrolyte composite prepn microemulsion  
 methacrylate; porous microstructure acrylic polymer  
 electrolyte lithium salt; membrane solid polymer  
 electrolyte water exchange solvent; ionic cond polymer  
 electrolyte acrylic lithium salt
- IT Polyoxymethylenes, preparation  
 (acrylic, lithium complexes; effects of composition and microemulsion  
 polymerization conditions on structure of microporous poly(ether  
 acrylate)-lithium salt composite electrolytes)
- IT Ionic conductivity  
 Phase diagram  
 Polymer electrolytes  
 Swelling, physical  
 (effects of composition and microemulsion polymerization conditions on  
 structure of microporous poly(ether acrylate)-lithium salt  
 composite electrolytes)
- IT Polymerization  
 (microemulsion; effects of composition and microemulsion polymerization)



conditions on structure of microporous poly(ether acrylate)-lithium salt composite electrolytes)

IT Emulsions  
(microemulsions, solids and membranes; effects of composition and microemulsion polymerization conditions on structure of microporous poly(ether acrylate)-lithium salt composite electrolytes)

IT Polymer morphology  
(phase, porous; effects of composition and microemulsion polymerization conditions on structure of microporous poly(ether acrylate)-lithium salt composite electrolytes)

IT Supramolecular structure  
(polymer-salt composite; effects of composition and microemulsion polymerization conditions on structure of microporous poly(ether acrylate)-lithium salt composite electrolytes)

IT 7439-93-2DP, Lithium, polyoxyalkylene-acrylate complexes, preparation 237770-04-6DP, Acrylonitrile-ethylene glycol dimethacrylate-4-vinylbenzenesulfonic acid, lithium salt- $\alpha$ -methoxy poly(ethyleneoxy)40-undecyl- $\alpha$ -methacrylate copolymer, lithium complexes  
(effects of composition and microemulsion polymerization conditions on structure of microporous poly(ether acrylate)-lithium salt composite electrolytes)

IT 7791-03-9, Lithium perchlorate (LiClO<sub>4</sub>) 14283-07-9 33454-82-9, Lithium trifluoromethanesulfonate  
(electrolyte; effects of composition and microemulsion polymerization conditions on structure of microporous poly(ether acrylate)-lithium salt composite electrolytes)

IT 96-48-0 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 616-38-6, Methyl carbonate  
(exchange solvent; effects of composition and microemulsion polymerization conditions on structure of microporous poly(ether acrylate)-lithium salt composite electrolytes)

REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L109 ANSWER 15 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1994:537505 HCAPLUS Full-text

DOCUMENT NUMBER: 121:137505

ORIGINAL REFERENCE NO.: 121:24819a,24822a

TITLE: Secondary batteries with improved solid

polymer electrolyte layers

INVENTOR(S): Kubota, Tadahiko; Yasunami, Shoichiro; Maekawa, Yukio

PATENT ASSIGNEE(S): Fuji Photo Film Co Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 29 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	-----
JP 06036754	A	19940210	JP 1992-178488	19920706
			<--	
JP 3379541	B2	20030224		
US 5340672	A	19940823	US 1993-85173	19930702
			<--	
			JP 1992-178488	A 19920706

PRIORITY APPLN. INFO.:

&lt;--

ED Entered STN: 17 Sep 1994

AB The batteries use solid polymer electrolytes layers containing an electrolyte solution of an alkali metal salt, which are prepared by applying a latex on a porous separator membrane and drying. The latex is preferably a copolymer of a 1st monomer, having 1 polymerizable ethylenic group and nonpolar side chains or nonpolar groups connected to an ester or amido side chain, 0-95, a 2nd monomer, having 1 polymerizable ethylenic group and a cyano group or a polar group connected to an ester or amido side chain, 5-95, a 3rd monomer, having  $\geq 2$  polymerizable ethylenic groups and  $>1$  side chain, 1-20, and a 4th monomer, having 1 polymerizable ethylenic group and a side chain containing a crosslink-able group, 1-80 mol.%.

IT 157247-20-6P  
(latex, solid polymer electrolyte layers  
containing, manufacture of, for secondary lithium batteries)

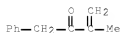
RN 157247-20-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with  
 $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -[(2-methyl-1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediy), 3-methyl-1-phenyl-3-buten-2-one  
and  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-ethanediy)  
(9CI) (CA INDEX NAME)

CM 1

CRN 55956-30-4

CMF C11 H12 O

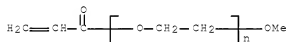


CM 2

CRN 32171-39-4

CMF (C2 H4 O)<sub>n</sub> C4 H6 O2

CCI PMS

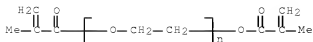


CM 3

CRN 25852-47-5

CMF (C2 H4 O)<sub>n</sub> C8 H10 O3

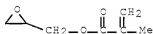
CCI PMS



CM 4

CRN 106-91-2

CMF C7 H10 O3



- IC ICM H01M002-16  
ICS H01M004-96; H01M010-40
- CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
- IT Battery electrolytes  
(latex-alkali metal salt, solid, compns. and manufacture of)
- IT Rubber, butadiene-styrene, uses  
(polymers with acrylates, solid polymer  
electrolyte layers containing, manufacture of, for secondary lithium  
batteries)
- IT 14283-07-9P, Lithium fluoroborate  
(electrolyte layers containing latex and, manufacture of, for  
secondary lithium batteries)
- IT 157247-10-4P 157247-11-5P 157247-12-6P 157247-13-7P  
157247-14-8P 157247-15-9P 157247-17-1P 157247-18-2P  
157247-19-3P 157247-20-6P 157247-21-7P 157247-22-8P  
(latex, solid polymer electrolyte layers  
containing, manufacture of, for secondary lithium batteries)
- IT 9003-07-0, Polypropylene  
(porous separators, polymer solid electrolytes  
applied on, for secondary batteries)
- IT 9003-55-8P  
(rubber, polymers with acrylates, solid polymer  
electrolyte layers containing, manufacture of, for secondary lithium  
batteries)

L109 ANSWER 16 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1992:118869 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 116:118869

ORIGINAL REFERENCE NO.: 116:19859a,19862a

TITLE: Acryloyl-modified polyalkylene oxide copolymer  
solid electrolyte

INVENTOR(S): Mizuno, Shinichiro

PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03238704	A	19911024	JP 1990-35449	19900216
			<--	
PRIORITY APPLN. INFO.:			JP 1990-35449	19900216
			<--	

ED Entered STN: 20 Mar 1992

AB The electrolyte contains a metal salt and a crosslinked resin containing a copolymer of an acryloyl-modified polyalkylene oxide with an organic compound having a double bond and  $\geq 1$  functional groups. The resin may be crosslinked with a crosslinking agent. An electrolyte containing methoxy-modified polyethylene glycol monoacrylate-2-hydroxyethyl acrylate copolymer and LiClO<sub>4</sub> showed high ion conductivity

IT 139308-66-0 139308-67-1 139308-68-2  
139308-69-3

(solid electrolyte, with high ion conductivity)

RN 139308-66-0 HCAPLUS

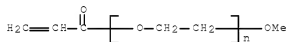
CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with  
 $\alpha$ -(1-oxo-2-propenyl)- $\theta$ -methoxypoly(oxy-1,2-ethanediy)l  
(9CI) (CA INDEX NAME)

CM 1

CRN 32171-39-4

CMF (C2 H4 O)<sub>n</sub> C4 H6 O2

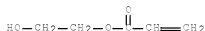
CCI FMS



CM 2

CRN 818-61-1

CMF C5 H8 O3



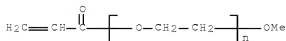
RN 139308-67-1 HCAPLUS

CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with  
N,N,N',N',N''-hexakis(methoxymethyl)-1,3,5-triazine-2,4,6-triamine  
and  $\alpha$ -(1-oxo-2-propenyl)- $\theta$ -methoxypoly(oxy-1,2-ethanediy)l  
(9CI) (CA INDEX NAME)

CM 1

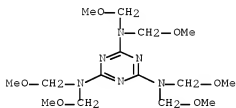
CRN 32171-39-4

CMF (C2 H4 O)n C4 H6 O2  
CCI PMS



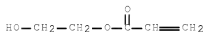
CM 2

CRN 3089-11-0  
CMF C15 H30 N6 O6



CM 3

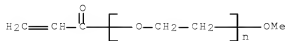
CRN 818-61-1  
CMF C5 H8 O3



RN 139308-68-2 HCAPLUS  
CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with  
2,4-diisocyanato-1-methylbenzene and  
 $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-ethanediyl)  
(9CI) (CA INDEX NAME)

CM 1

CRN 32171-39-4  
CMF (C2 H4 O)n C4 H6 O2  
CCI PMS



CM 2

CRN 818-61-1

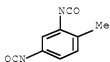
CMF C5 H8 O3



CM 3

CRN 584-84-9

CMF C9 H6 N2 O2



RN 139308-69-3 HCAPLUS

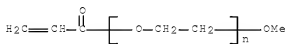
CN 2-Propenoic acid, 2-methyl-, polymer with oxiranylmethyl  
2-methyl-2-propenoate and  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -  
methoxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 32171-39-4

CMF (C2 H4 O)n C4 H6 O2

CCI PMS



CM 2

CRN 106-91-2

CMF C7 H10 O3



CM 3

CRN 79-41-4

CMF C4 H6 O2



IC ICM H01B001-06  
 ICS C08K003-10; C08L033-14; G02F001-15; H01M006-18; H01M010-40  
 CC 76-2 (Electric Phenomena)  
 Section cross-reference(s): 38  
 ST acryloyl polyalkylene oxide solid electrolyte  
 IT Electrolytes  
     (solid, acryloyl-modified polyalkylene oxide copolymer,  
     with high ion conductivity)  
 IT 7791-03-9, Lithium perchlorate  
     (acryloyl-modified polyalkylene oxide copolymer solid  
     electrolyte containing)  
 IT 139308-66-0 139308-67-1 139308-68-2  
     139308-69-3  
     (solid electrolyte, with high ion conductivity)

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(FILE 'HOME' ENTERED AT 11:01:43 ON 14 NOV 2008)

FILE 'HCAPLUS' ENTERED AT 11:02:41 ON 14 NOV 2008

L1 1 SEA ABB=ON PLU=ON US20070040145/PN  
SEL RN

FILE 'REGISTRY' ENTERED AT 11:02:55 ON 14 NOV 2008

L2 14 SEA ABB=ON PLU=ON (19438-60-9/BI OR 31305-94-9/BI OR  
584-84-9/BI OR 697284-07-4/BI OR 7791-03-9/BI OR 848439-41-  
8/BI OR 848439-42-9/BI OR 848439-43-0/BI OR 848439-44-1/BI  
OR 848442-02-4/BI OR 848442-03-5/BI OR 849950-63-6/BI OR  
877834-07-6/BI OR 877837-29-1/BI)

L3 7 SEA ABB=ON PLU=ON L2 AND 3/NC

FILE 'HCAPLUS' ENTERED AT 11:03:45 ON 14 NOV 2008

L4 3 SEA ABB=ON PLU=ON L3

FILE 'REGISTRY' ENTERED AT 11:45:04 ON 14 NOV 2008

L5 STR

L6 STR

L7 SCR 2043

L8 50 SEA SSS SAM L5 AND L6

L9 STR L5

L10 50 SEA SSS SAM L9 AND L6 AND L7

L11 STR L6

L12 50 SEA SSS SAM L9 AND L11 AND L7

L13 STR

L14 50 SEA SSS SAM L9 AND L11 AND L13 AND L7

L15 136955 SEA SSS FUL L9 AND L11 AND L7

L16 3 SEA ABB=ON PLU=ON L15 AND L2

L17 4 SEA ABB=ON PLU=ON L3 NOT L16

SAV L15 BER998/A

L18 50 SEA SUB=L15 SSS SAM L13

L19 STR

L20 50 SEA SUB=L15 SSS SAM L19

L21 365051 SEA ABB=ON PLU=ON PACR/PCT

L22 308947 SEA ABB=ON PLU=ON PETH/PCT

L23 132698 SEA ABB=ON PLU=ON PSTY/PCT

L24 6163 SEA ABB=ON PLU=ON L15 AND L21 AND L22 AND L23

L25 STR L9

L26 50 SEA SUB=L15 SSS SAM L25

L27 STR L11

L28 50 SEA SUB=L15 SSS SAM (L25 AND L27 AND L19)

L29 STR L9

L30 50 SEA SUB=L15 SSS SAM L29

L31 STR L29

L32 50 SEA SUB=L15 SSS SAM L31

L33 STR L27

L34 50 SEA SUB=L15 SSS SAM (L29 AND L33)

L35 109186 SEA SUB=L15 SSS FUL (L29 AND L33)

L36 3 SEA ABB=ON PLU=ON L35 AND L2

L37 25925 SEA ABB=ON PLU=ON L35 AND L23

L38 25040 SEA ABB=ON PLU=ON L37 NOT P/ELS

L39 22884 SEA ABB=ON PLU=ON L38 NOT SI/ELS

L40 STR L33

L41 50 SEA SUB=L35 SSS SAM L40



L42 54341 SEA SUB=L35 SSS FUL L40  
 L43 16281 SEA ABB=ON PLU=ON L42 AND L23  
 SAV L42 TEMP BER998A/A  
 L44 0 SEA ABB=ON PLU=ON L43 AND L2  
 L45 3 SEA ABB=ON PLU=ON L39 AND L2  
 L46 35853 SEA ABB=ON PLU=ON 868-77-9/CRN  
 L47 20350 SEA ABB=ON PLU=ON 818-61-1/CRN  
 L48 19565 SEA ABB=ON PLU=ON 106-91-2/CRN  
 L49 15426 SEA ABB=ON PLU=ON L39 AND (L46 OR L47 OR L48)  
 L50 4531 SEA ABB=ON PLU=ON 26915-72-0/CRN  
 L51 80446 SEA ABB=ON PLU=ON 100-42-5/CRN  
 L52 232 SEA ABB=ON PLU=ON L49 AND L50  
 L53 159 SEA ABB=ON PLU=ON L51 AND L52  
 L54 11 SEA ABB=ON PLU=ON L53 AND 3/NC  
  
 FILE 'HCAPLUS' ENTERED AT 12:32:13 ON 14 NOV 2008  
 L55 15 SEA ABB=ON PLU=ON L54  
 L56 99 SEA ABB=ON PLU=ON L53  
 L57 8 SEA ABB=ON PLU=ON L56 AND SOLID(2A)ELECTROLYT?  
 L59 13 SEA ABB=ON PLU=ON L58 AND SOLID(2A)ELECTROLYT?  
 L60 21 SEA ABB=ON PLU=ON L57 OR L59  
  
 FILE 'REGISTRY' ENTERED AT 13:07:23 ON 14 NOV 2008  
 L61 232 SEA ABB=ON PLU=ON L49 AND L50  
 L62 159 SEA ABB=ON PLU=ON L61 AND L51  
  
 FILE 'HCAPLUS' ENTERED AT 13:07:51 ON 14 NOV 2008  
 L63 118 SEA ABB=ON PLU=ON L61  
 L64 8 SEA ABB=ON PLU=ON L63 AND SOLID(2A)ELECTROLYT?  
 L65 21 SEA ABB=ON PLU=ON L60 OR L64  
 L66 13 SEA ABB=ON PLU=ON L65 NOT L55  
 L67 8 SEA ABB=ON PLU=ON L55 AND (1840-2003)/PRY,AY,PY  
 L68 9 SEA ABB=ON PLU=ON L66 AND (1840-2003)/PRY,AY,PY  
  
 FILE 'REGISTRY' ENTERED AT 13:10:10 ON 14 NOV 2008  
 E (C2 H4 O)N C5 H8 O2/MF  
 E (C2 H4 O)N C4 H6 O2/MF  
 L69 6 SEA ABB=ON PLU=ON "(C2 H4 O)N C4 H6 O2"/MF  
 L70 0 SEA ABB=ON PLU=ON L69 AND L21  
 L71 6 SEA ABB=ON PLU=ON L69 AND L22  
 L72 14180 SEA ABB=ON PLU=ON L21 AND L22 AND L23  
 L73 6163 SEA ABB=ON PLU=ON L72 AND L15  
  
 FILE 'HCAPLUS' ENTERED AT 13:14:54 ON 14 NOV 2008  
 L74 3225 SEA ABB=ON PLU=ON L73  
 L75 2484 SEA ABB=ON PLU=ON L74 AND (1840-2003)/PRY,AY,PY  
 L76 12 SEA ABB=ON PLU=ON L75 AND SOLID(2A)ELECTROLYT?  
 L77 8 SEA ABB=ON PLU=ON L76 NOT L55  
 L78 11 SEA ABB=ON PLU=ON L68 OR L77  
  
 FILE 'REGISTRY' ENTERED AT 13:31:57 ON 14 NOV 2008  
 L79 2255 SEA ABB=ON PLU=ON 25736-86-1/CRN  
 L80 1190 SEA ABB=ON PLU=ON 32171-39-4/CRN  
 L81 4 SEA ABB=ON PLU=ON 84180-83-6 /CRN  
 L82 1 SEA ABB=ON PLU=ON 119202-21-0 /CRN  
 L83 3114 SEA ABB=ON PLU=ON L15 AND (L79 OR L80 OR L81 OR L82)  
 L84 663 SEA ABB=ON PLU=ON L83 AND (L46 OR L47 OR L48)  
  
 FILE 'HCAPLUS' ENTERED AT 13:34:29 ON 14 NOV 2008  
 L85 356 SEA ABB=ON PLU=ON L84

## 10/571,998

L86	9	SEA	ABB=ON	PLU=ON	L85 AND SOLID(2A)ELECTROLYT?
L87	16	SEA	ABB=ON	PLU=ON	L85 AND ELECTROLYT?
L88	16	SEA	ABB=ON	PLU=ON	L86 OR L87
L89	7	SEA	ABB=ON	PLU=ON	L88 AND (1840-2003)/PRY,AY,PY
L90	8	SEA	ABB=ON	PLU=ON	L55 AND (1840-2003)/PRY,AY,PY
L91	4	SEA	ABB=ON	PLU=ON	L90 AND ELECTROLYT?
L92	8	SEA	ABB=ON	PLU=ON	L90 OR L91
L93	10316	SEA	ABB=ON	PLU=ON	L56 OR L58 OR L63
L94	89	SEA	ABB=ON	PLU=ON	L93 AND ELECTROLYT?
L95	71	SEA	ABB=ON	PLU=ON	L94 AND (1840-2003)/PRY,AY,PY
L96	67	SEA	ABB=ON	PLU=ON	L95 NOT L92
L97	9	SEA	ABB=ON	PLU=ON	L96 AND L65
L98	6	SEA	ABB=ON	PLU=ON	L96 AND L76
L99	9	SEA	ABB=ON	PLU=ON	L96 AND L78
L100	25	SEA	ABB=ON	PLU=ON	L88 OR L97 OR L98 OR L99
L101	25	SEA	ABB=ON	PLU=ON	L100 NOT L92
L102	0	SEA	ABB=ON	PLU=ON	L85 AND L96
L103	88	SEA	ABB=ON	PLU=ON	L85 AND L93
L104	1	SEA	ABB=ON	PLU=ON	L103 AND ELECTROLYT?
L105	16	SEA	ABB=ON	PLU=ON	L88 OR L104
L106	83	SEA	ABB=ON	PLU=ON	(L96 OR L97 OR L98 OR L99 OR L100 OR L101)
L107	18	SEA	ABB=ON	PLU=ON	L106 AND SOLID(3A)ELECTROLYT?
L108	25	SEA	ABB=ON	PLU=ON	L105 OR L107
L109	16	SEA	ABB=ON	PLU=ON	L108 AND (1840-2003)/PRY,AY,PY